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The technical, professional, and administrative aspects of the operation and administration of the nation's highway transportation system currently involves more than one-half million persons, and the need for traffic specialists and technicians is exceeding the available supply. The community college must play an increasing role in (1) training existing personnel in government, business, and industry to substantially upgrade their performance in this field, (2) recruiting and training high school students served by the community college to help overcome the shortage, and (3) informing students currently enrolled in other fields of the opportunities in the traffic program. Appropriate areas for community college programs are: (1) motor vehicle administration, (2) traffic engineering, (3) police traffic services, (4) driver and traffic safety education, (5) commercial highway transportation, and (6) general education with a basic traffic core. An overview, required competencies, basic concepts, and needed skills for each program are included in this document, and suggestions for a survey of campus and community needs and possible curriculum patterns are also given. (MC)

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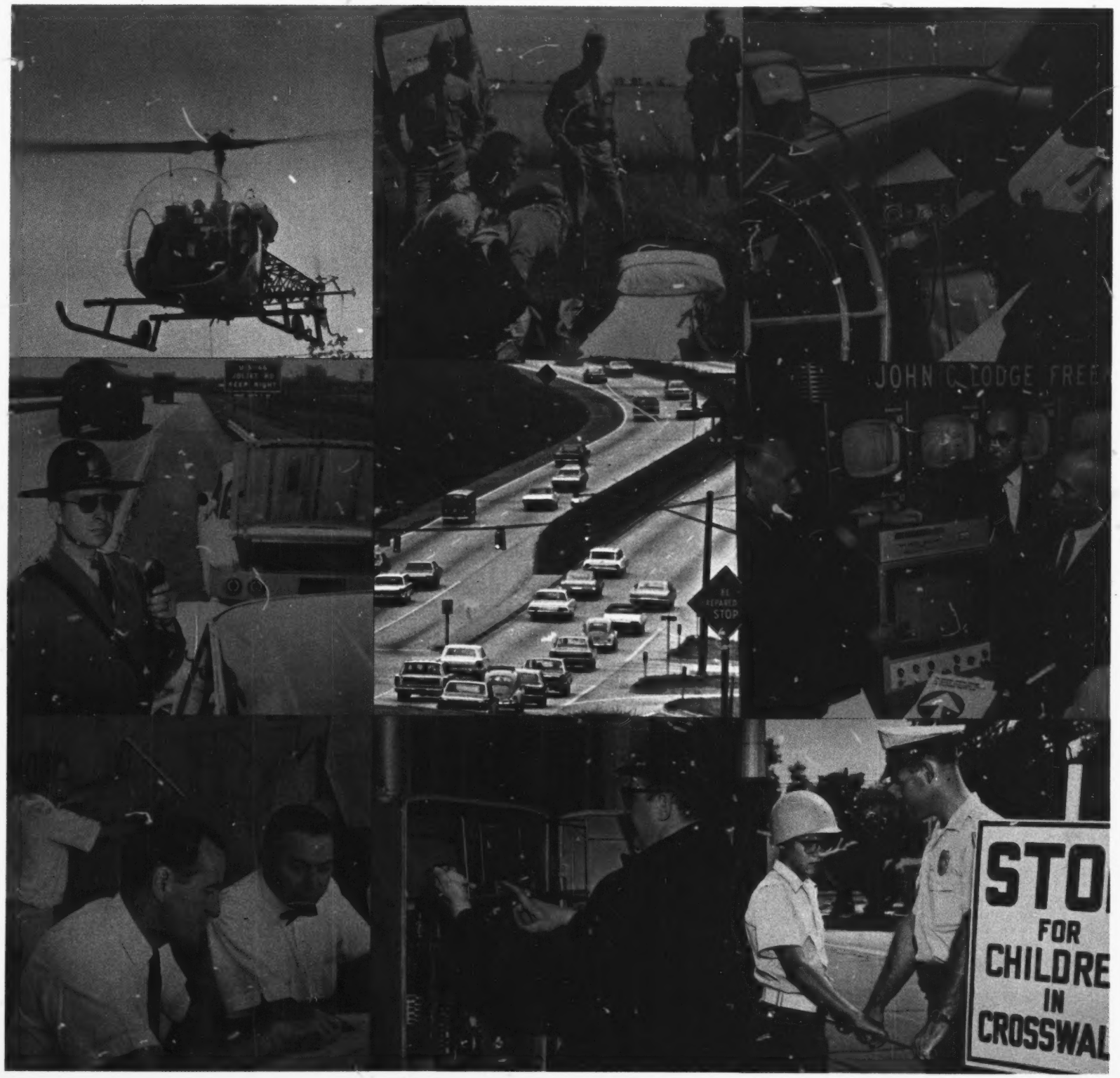
THE ROLE OF THE COMMUNITY COLLEGE IN DEVELOPING TRAFFIC SPECIALISTS & TECHNICIANS

By Richard Bishop and Gordon Sheehe



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THE ROLE OF THE COMMUNITY COLLEGE IN DEVELOPING TRAFFIC SPECIALISTS & TECHNICIANS *By Richard Bishop and Gordon Sheehe*

ED025244

This publication was funded by the W. K. Kellogg Foundation as a part of the AAJC Occupational Education Project.

It was undertaken primarily because of the recognition that manpower demands in traffic technician career fields are increasing rapidly as the impact of the Highway Safety Act becomes evident. Once again, as in law enforcement and other public service programs, the community and junior colleges appear poised for ready response to these expressed needs. In an effort to determine the proper role and most appropriate procedure, AAJC convened a meeting of recognized leaders in the traffic field in December 1967. These experts, along with representatives of several junior colleges that had expressed previous interest in a traffic program, identified the major classifications presented herein. Then additional persons representing each specialized area of concern met to further analyze these classifications. Our coauthors, both of whom are unusually well qualified and extremely well regarded nationally, actually have presented the thoughts of some twenty-five participants in addition to their own.

It is the hope of the American Association of Junior Colleges that this publication will encourage the nation's junior and community colleges to regard transportation and traffic technologies as deserving serious, if not priority, consideration.

Special attention should be called to the bibliography which appears in the back of this publication. While it is in no way intended to be complete, it does include references that proved useful in the compiling of this document. Of course, most of the associations and organizations cited have additional reference materials available, and their lists of publications should be obtained. Specialized problems relating to staffing, facilities, and other operating procedures could also be directed to such agencies.

Other resources, particularly consultants, are in the process of being identified, and every effort will be made to provide such information to community colleges upon request.

James D. Stinchcomb

James D. Stinchcomb
Specialist in Public Service
American Association of Junior Colleges

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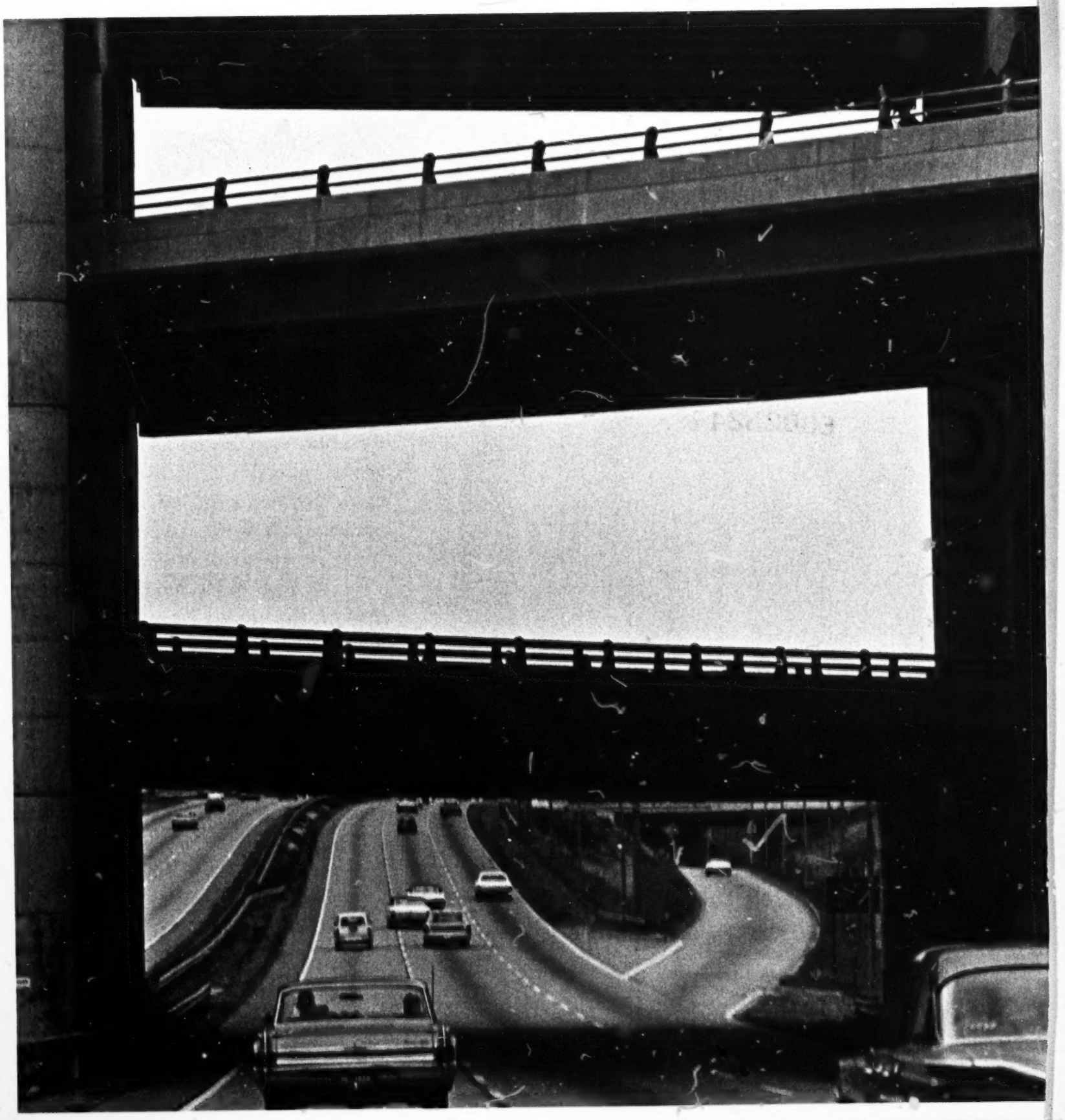
Richard W. Bishop is presently associate professor in the College of Education at Florida State University, Tallahassee, Florida. He holds graduate degrees from both Pennsylvania State University and New York University. Dr. Bishop served on the faculty at Michigan State University and with the Florida Institute for Continuing University Studies prior to joining the faculty at Florida State University. His primary interests are in the areas of teacher preparation and driver and traffic safety education. A member of numerous traffic committees, he is responsible for several research projects and publications in the field of driver education.

Gordon Sheehe has served as director of the Highway Traffic Safety Center at Michigan State University since 1956. Prior to that date, he served on the faculty of the School of Police Administration at that school. Professor Sheehe, a graduate of the University of Vermont, has served in the Vermont Highway Patrol and has been responsible for directing traffic training programs at both Northwestern University and the University of Washington. He has been extremely active in the affairs of the National Safety Council, having served as a member of the board of directors and chairman of numerous committees, including the Traffic Education and Training Committee.

AAJC wishes to express particular gratitude to Jack K. Weaver, an instructor at Florida State University and a doctoral candidate in the field of driver and traffic safety education. Professor Weaver reviewed the literature and developed the structure—competencies, concepts, and skills—for the five major classifications which appear in this publication. He also participated in a staff capacity at several of the regional traffic conferences which AAJC has conducted in an effort to acquaint community college administrators with the contents of this document during its preparation.



The following specialized consultants lent their technical assistance to the project through a series of small group meetings focusing upon the major functions. It is with considerable gratitude that AAJC acknowledges their contributions:

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TRAFFIC TECHNICIANS: WHAT THEY ARE & WHAT THEY DO

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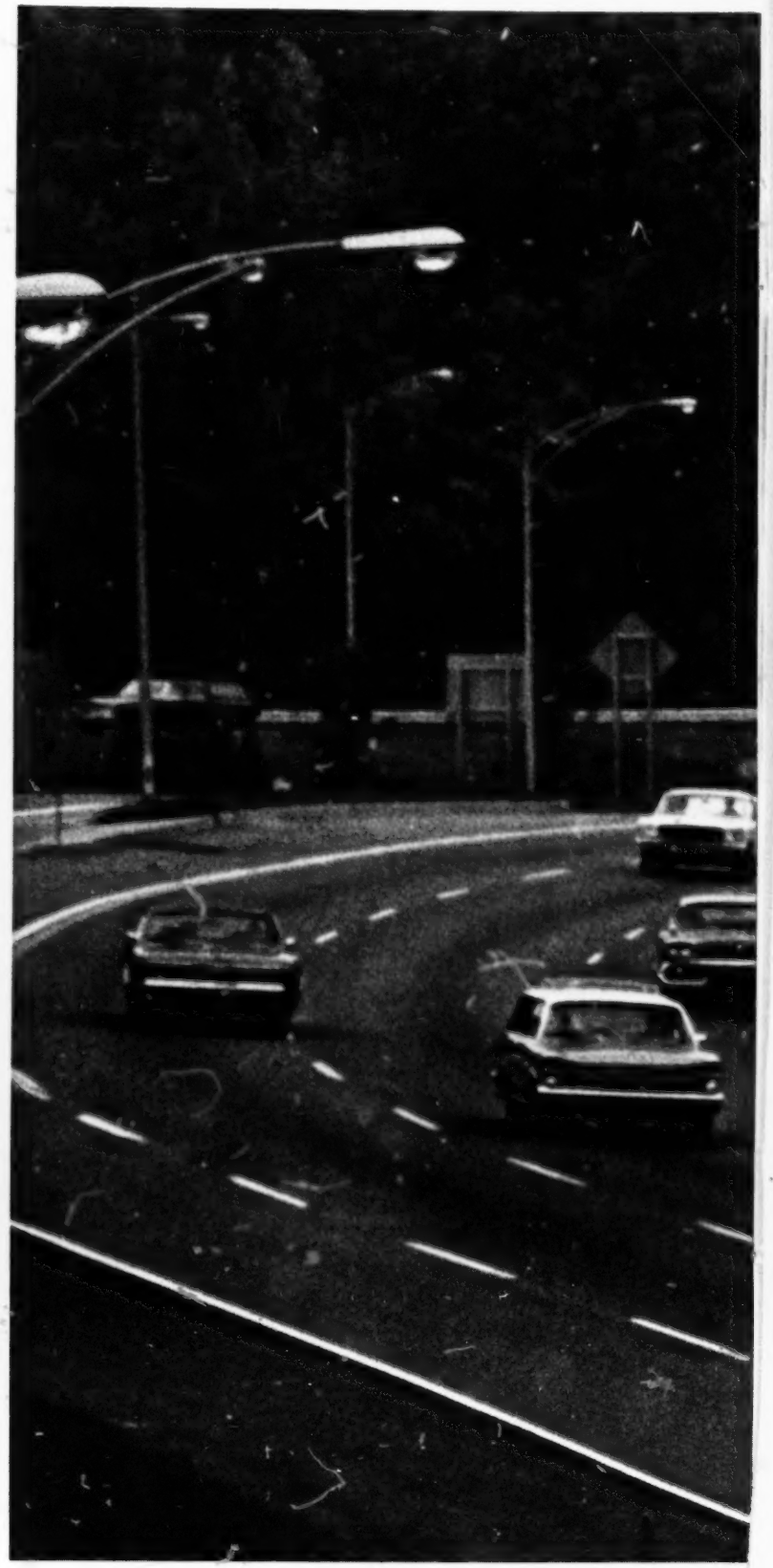


THE HIGHWAY TRANSPORTATION SYSTEM

The American way of life is geared to the motor vehicle and its use for business, social, and pleasurable purposes.

The economy of the country is tied to motor vehicle production, highway system development, and the many service industries and regulatory agencies which collectively amount to a $100 billion expenditure annually.

The highway transportation system is huge, loosely coordinated and managed. Management is dependent upon thousands of persons working together cooperatively—and, hopefully, in a coordinated, planned fashion.

The objective of the many functions and activities involved in administration of highway transportation is to move persons and goods to a desired destination safely, rapidly, and efficiently. The task of achieving this objective requires effective administration of the system. This entails production of vehicles; building roads and parking facilities; providing supplies and services which vehicle owners require; developing regulations, facilities, and devices; planning and operating traffic movement devices and storage facilities; informing, educating, and controlling drivers; and many other activities. It is a huge, complex task of business, manufacturing, and public administration. The public administration aspects involve legislation, politics, economics, public finance, public information, and the many professional and technical activities comprising highway traffic management.

Some concept of the magnitude of the task of achieving effective administration of the highway transportation system can be gleaned from a few illustrative facts and problems:

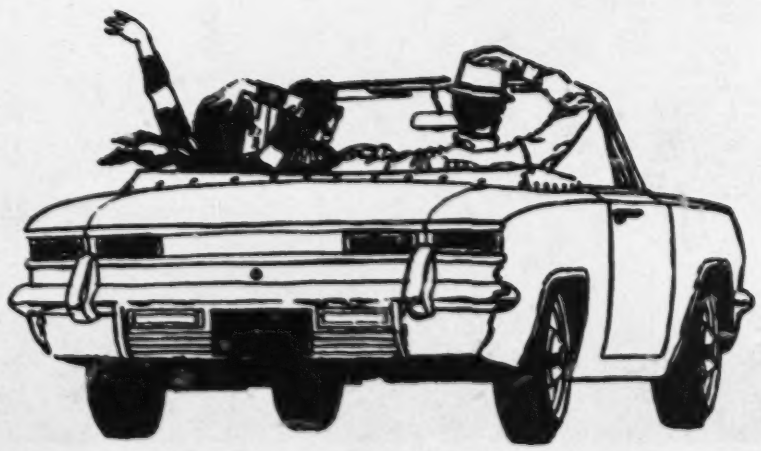
- Nearly 100 million motor vehicles use streets and highways including approximately 325,000 buses and 15 million trucks, representing more than a $200 billion investment.
- More than 100 million motor vehicle drivers crowd our highways.
- More than 9 million new motor vehicles are produced and purchased each year, representing more than a $25 billion investment.
- More than 3.5 million miles of streets and highways are in use.
- Approximately $15 billion a year is spent for construction, maintenance, and improvement of streets and highways, and administration of these and related activities. Slightly more than $4 billion of this total is federal aid funds.
- More than 900 billion miles are traveled each year.
- More than 75 billion gallons of motor vehicle fuel are consumed each year.
- In excess of 50 thousand persons, including over 9,000 pedestrians, are killed in traffic accidents and 2 million injured in approximately 14 million accidents each year.
- Economic losses resulting from traffic accidents exceed $10 billion a year.

The total number of people involved as drivers, owners, voters, and taxpayers approximates two-thirds of the entire population. They are influential in determining public policy and in financing the highway transportation system.

The problem of persuading and influencing 100 million drivers to comply with laws and regulations is a tremendous task of public information, education, and enforcement.

The personnel involved in the technical, professional, and administrative aspects of the system's operation and administration exceeds one-half million persons. Obtaining and developing this manpower is a necessary aspect and one in which the junior and community college can aid.

The thousands of governmental jurisdictions and the many agencies within which each has responsibilities in the administration of the system, present tremendous problems of coordination and cooperation. Achievement of uniformity in rules of the road, traffic control devices, and administration policies and procedures is most difficult and far from being attained.



Highway Safety Management

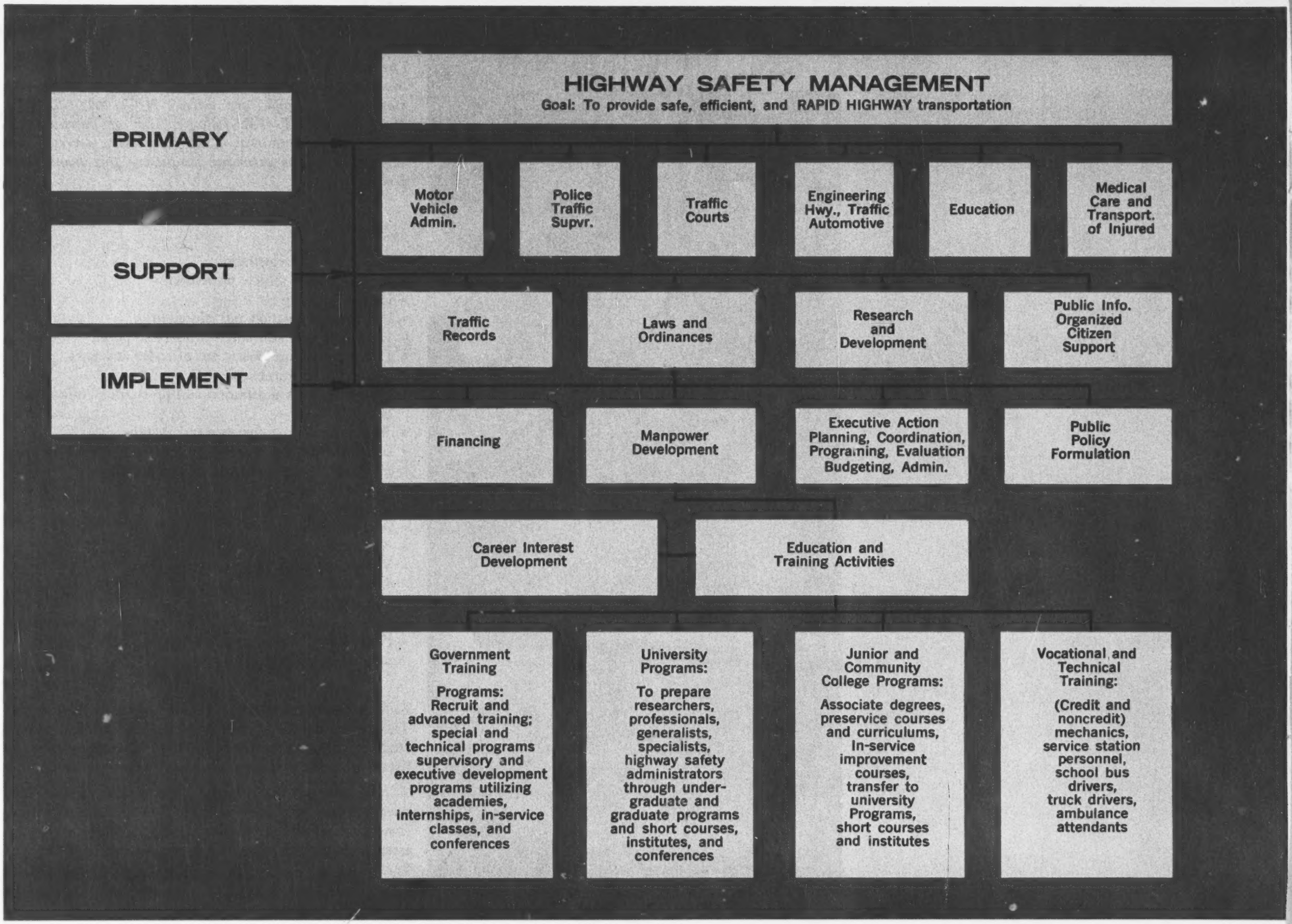
The parts of the task of administration of the highway transportation system more directly involved in the safe movement of traffic are called HIGHWAY SAFETY MANAGEMENT. The following list of functions will convey some impression of the complexity, diversity, and magnitude of the activities comprising this management task:

- Motor vehicle registration
- Periodic motor vehicle inspection
- Driver licensing
- Pedestrian regulation and education
- Highway safety education--school and public
- Development and enactment of codes and laws
- Traffic law enforcement
- Traffic court administration and prosecutors' office operation
- Traffic records maintenance and analysis
- Identification and surveillance of accident locations
- Highway design, construction, and maintenance
- Traffic engineering
- Emergency medical services
- Accident investigation
- Automotive safety engineering
- Vehicle parking and storage facilities construction and operation
- Public information
- Public support of needed highway safety measures
- Fleet safety supervision of school buses, government and commercial vehicle fleets.

Each of these functions entails many subtasks and activities. The different types of technical, professional, and administrative manpower needed are more numerous than the list of functions would suggest.

In addition, many clerical, maintenance, and business operation personnel have not been listed because their functions are more of a supportive nature. They are nevertheless essential to the operation of the department.

These and other primary functions and activities require support activities. The following charts depict the primary, implementation, and support functions.


PRIMARY
SUPPORT
IMPLEMENT
HIGHWAY SAFETY MANAGEMENT
Goal: To provide safe, efficient, and RAPID HIGHWAY transportation
Motor Vehicle Admin.
Police Traffic Supvr.
Traffic Courts
Engineering Hwy., Traffic Automotive
Education
Medical Care and Transport. of Injured
Traffic Records
Laws and Ordinances
Research and Development
Public Info. Organized Citizen Support
Financing
Manpower Development
Executive Action Planning, Coordination, Programing, Evaluation Budgeting, Admin.
Public Policy Formulation
Career Interest Development
Education and Training Activities
Government Training
Programs: Recruit and advanced training; special and technical programs supervisory and executive development programs utilizing academies, internships, in-service classes, and conferences
University Programs:
To prepare researchers, professionals, generalists, specialists, highway safety administrators through under-graduate and graduate programs and short courses, institutes, and conferences
Junior and Community College Programs:
Associate degrees, preservice courses and curriculums, In-service improvement courses, transfer to university Programs, short courses and institutes
Vocational and Technical Training:
(Credit and noncredit) mechanics, service station personnel, school bus drivers, truck drivers, ambulance attendants

Highway Safety Management

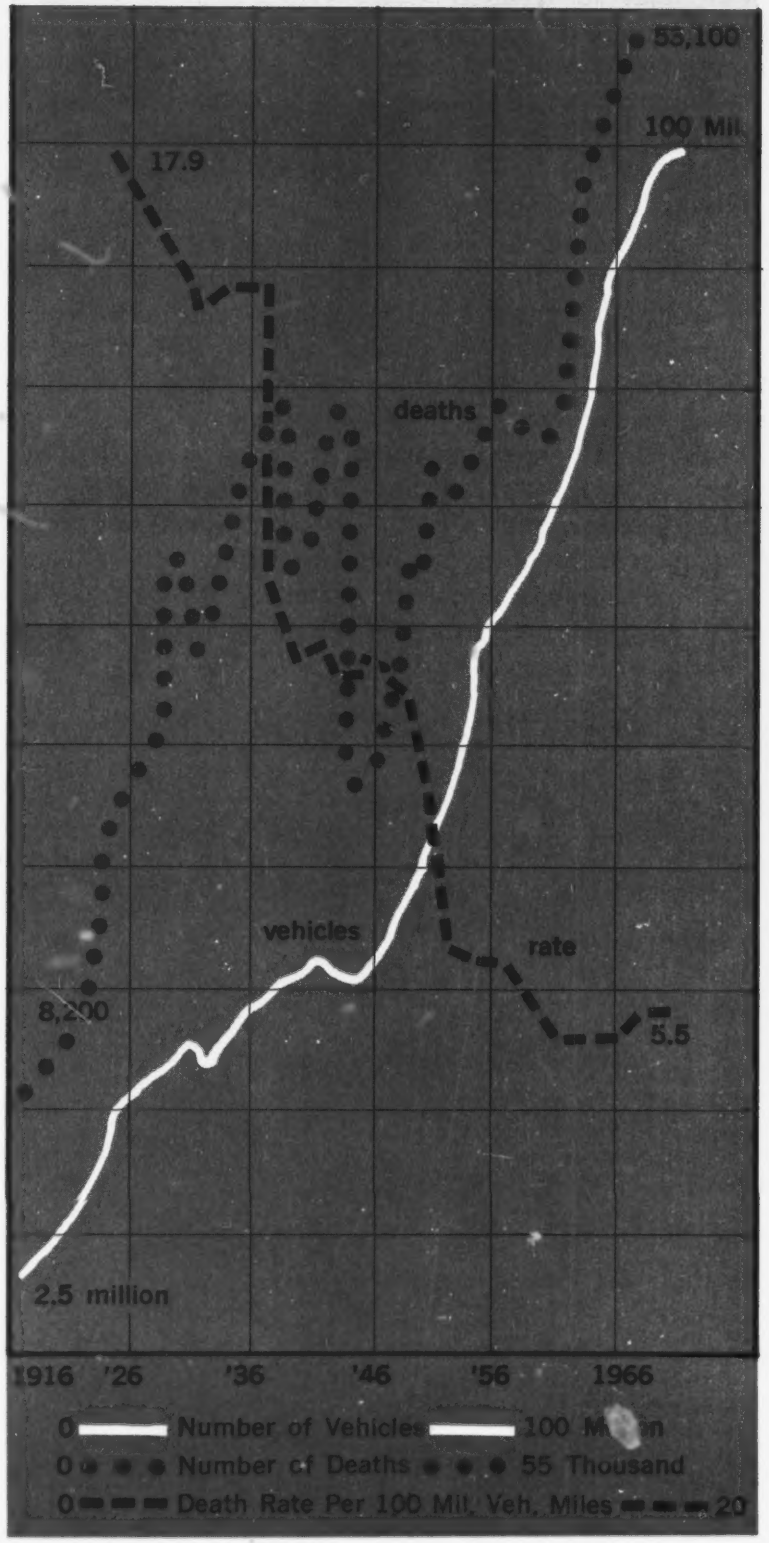
For the past forty years, the efforts to achieve safer, more rapid and efficient motor vehicle transportation have produced better vehicles and roads; more effective traffic control methods and devices; and educational and regulatory programs designed to improve driver performance. How much greater progress could have been achieved if there had been more research, documented experimentations, and demonstration projects is not ascertainable.

Highway improvements and traffic engineering certainly have done much to make street and highway travel faster and usually safer. Off-street parking facilities development has helped to decrease congestion and enabled highway users to drive to, or at least close to, their desired destinations. This has allowed central business districts in cities to survive and grow. The ever-increasing number of vehicles, however, has offset these gains in many places as the bumper-to-bumper traffic on expressways and feeder routes at rush hours or on holidays demonstrates. Speed, relay studies, and highway needs studies reveal that traffic flow cannot be said to be as efficient as possible.

How far present traffic movement is from optimum efficiency cannot be assessed because: (a) little is known about the extent and cost of travel delay and inability to obtain parking space; (b) the apparent resistance of highway users to methods which could decrease inefficient movement such as greater use of mass transportation, group-riding, one-way routes, etc.; and (c) the cost-benefit relationships are unknown, as well as the maximum investment in improved highway and parking facilities the economy could bear to achieve further efficiency in motor vehicle traffic movement.

Evaluation of the extent to which motor vehicle traffic moves safely is handicapped by inadequate data and lack of criteria for establishing the optimum level of safety in highway travel which is obtainable. It is difficult to think that highway travel is anywhere near as safe as it should be when in the year 1967, 53,000 people were killed and 2 million were injured in an estimated 14 million accidents resulting in an estimated loss of $10 billion. But the first question still remains: what number of accidents and casualties and what economic loss could be said to be the optimum or the irreducible minimum considering the potential for accident occurrence in the 970 billion miles motor vehicles traveled in the United States in 1967.

TRENDS IN VEHICLES, DEATHS AND DEATH RATES



No one has ever answered this question. Those concerned with traffic accident losses have (a) believed a much greater degree of safe vehicle operation could be attained; and (b) worked to attain a lower rate than that of the preceding year or years.

Unfortunately, the evaluation of the degree of safety in motor vehicle use has been based upon an inconclusive method and rate: the number of deaths per 100 million motor vehicle miles of travel. This is not an indicator of how much risk taking and unsafe driving takes place. And it is not an indicator of the rate that accidents occur.

Assuming that the computation of the number of miles of travel is approximately correct (or at least the error is consistent from year to year), and that the reporting of the deaths attributable to traffic accidents is accurate, the deaths per 100 million miles of travel does show the results of efforts to prevent people from being killed as a result of involvement in traffic accidents. During the last forty years this rate has been reduced nationally from 18.2 in 1926, to 9.81 in 1946, to 5.6 in 1966. Unfortunately, the rate has risen slightly each year from 1962, when a low point of 5.32 was reached.

But this rate cannot be attributed wholly to safer use of the highways or success of highway accident prevention activities. It is possible that better first-aid treatment and advances in medical science and services have kept more seriously injured motorists from dying. In addition, improvements in motor vehicles, designed to lessen the severity of injuries, has undoubtedly accounted for part of the decreased death rate.

A true measure of the degree of safety or hazard in motor vehicle travel is not available because the reporting of accidents resulting only in injury or property damage is incomplete, and the degree of incompleteness is unknown and undoubtedly varies within a state, and from state to state. Adequate studies have not been conducted to determine the extent and type of unsafe driving behavior prevalent in differing traffic situations.

From studies of near accidents, from observations of motorists, and from the records of enforcement officers, it is clear that many acts of unsafe driving do not result in accidents. This is fortunate, but it has an undesirable effect of giving some drivers a false sense of security resulting in continued unsafe driving and risk taking. As traffic density increases by reason of the yearly increase of vehicles and drivers using approximately the same amount of highway network mileage, the unsafe behavior will more frequently result in an accident than in the past. To obtain a greater degree of safety in motor vehicle travel, it is necessary to improve driving behavior substantially.

How much improvement in driving behavior can be expected? To a considerable extent, the answer to this question establishes the optimum in the safety aspect of highway transportation.

At present, based upon the best estimates of the number of accidents which occur per year, the average miles traveled per driver-involvement in an accident is estimated to be:

15,000,000 miles per fatal accidents
430,000 miles per injury accident
42,000 miles per property damage accident.

This would suggest that on an average, drivers are doing well now. Those who believe that drivers as a whole can do much better argue that:

A. accidents are caused occurrences and that each one could have been prevented by proper driver action; B. many drivers greatly exceed the average mileage per driver-involvement in a property damage accident; and C. if nearly all drivers can be trained and persuaded to drive as well as the best 25 per cent of today's drivers, the number of accidents will be decreased substantially.

In addition to the improvement in highway safety which could be attained by improved driver behavior, additional decreases in accidents could be obtained by better highways, wider application of traffic engineering principles, correction of hazardous locations, and by continued improvement in the crash-worthiness of vehicles and their equipment such as brakes, lights, handling qualities, and interdriver communications equipment.

Still, the major question is how to achieve substantial improvement in motor vehicle highway safety.

This is not a new question. In 1924, Herbert Hoover, then Secretary of Commerce, called the first National Conference on Highway Safety. Even that long ago the difficulty and complexity of the accident problem was recognized. In the following decades, the need for comprehensive highway safety was accepted. In the early days emphasis was placed on the three E's: engineering, education, and enforcement—but it was actually broader, including uniform laws, traffic records, and public support development. Notable success was achieved in some places during the 1930's by applying the broad-scale program.

During World War II, motor vehicle travel was restricted to conserve the nation's 35 million motor vehicles since manufacturing of them was stopped. A study by the Brookings Institute in 1941 determined that it was neces-

sary to keep at least 20 million motor vehicles in operating condition to transport workers and materials if the war effort was not to be impaired. Gas and tire rationing, and lowered speed limits were invoked. Traffic deaths decreased somewhat during the war years; but because of decreased travel, the death rate stayed at approximately the same level —approximately 11 deaths per 100 million miles of travel. By 1945, the number of motor vehicles in operating condition had decreased to 31 million.

Near the end of World War II, motor vehicle production was resumed, travel increased, and the number of vehicles in use and the total miles of motor vehicle travel per year soon surpassed prewar years, and increased rapidly. By the end of 1958, the number of vehicles and miles of travel were double that of 1941, the highest prewar year, and by the end of 1967 had increased another 50 per cent.

President Truman called the first White House Conference on Highway Safety to deal with the traffic accident problem in May 1946. Committees of specialists in each field of traffic accident prevention prepared recommended programs which embodied the best thinking and practices. More than 2,000 public officials and private citizens attended the White House Conference, considered the recommended programs, ratified them, and adopted them as the Highway Safety Action Program. The program initially embodied eight major categories: laws and ordinances, accident records, education, enforcement, engineering, public information, motor vehicle administration, and organized citizen support.

This program was hailed as a comprehensive approach to traffic accident prevention and considered as guidelines for states and communities to follow. Later conferences in 1949 and 1960 revised and updated the content of the Action Program and divided the enforcement category into "Police Traffic Supervision" and "Traffic Courts." Final sections on "Research" and "Care and Transportation of the Injured" were added so that the Highway Safety Action Program in 1966 contained eleven categories.

With the passage of the 1966 Highway Safety Act, and the development of standards and manuals called for by that act, the Action Program was supplanted by the standards and manuals. It goes without saying, however, that much of the Action Program is reflected in the standards and manuals.

The highway safety movement moved slowly during the 1950's and 1960's. Substantial increases in appropriations were a rarity, even though the number of vehicles and miles of travel increased by 50 per cent between 1958 and 1967.

Some members of the United States Congress became concerned about the situation. In 1956 a special subcommittee on traffic safety of the Committee on Interstate and Foreign Commerce of the U. S. House of Representatives, chaired by Congressman Kenneth A. Roberts, held extensive hearings. Hearings were continued in succeeding years to 1962. Reports on these hearings were published in each of those years. In 1958 Congress passed the Beamer Resolution to enable and encourage the states to enter into driver licensing compacts. In 1965 the U.S. Senate subcommittee on Executive Reorganization, chaired by Senator Abraham Ribicoff, conducted hearings to determine what the automobile manufacturing industry was doing in the interests of highway safety, and what governmental agencies (federal and state) were doing or failing to do.

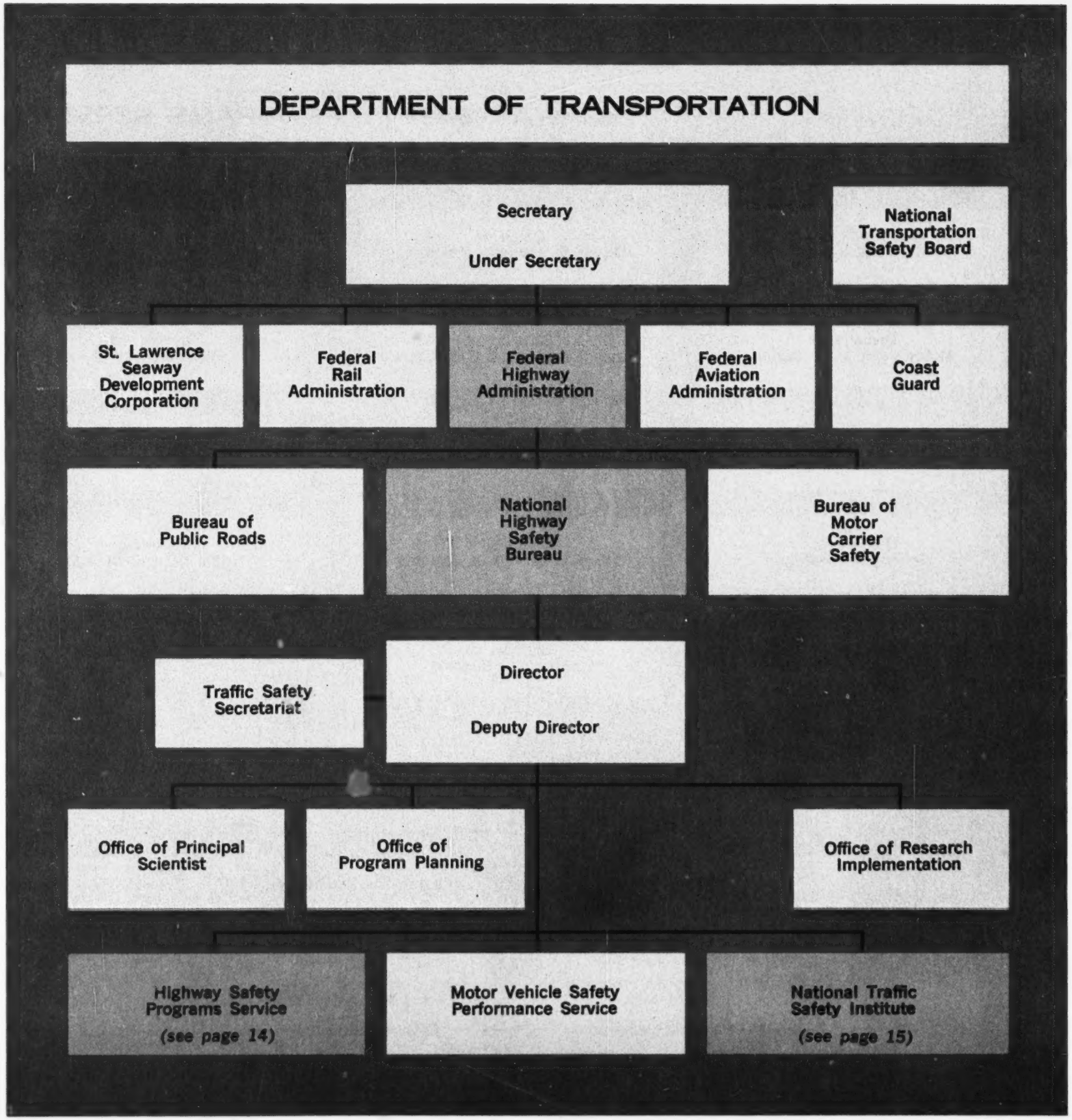
In 1966, President Johnson called upon Congress to take substantial action. He recommended:

1. Creation of a federal Department of Transportation
2. Passage of a national traffic and motor vehicle safety act
3. Passage of a highway safety act
4. Establishment of a National Highway Safety Bureau in the Department of Transportation.

Congress acted and fulfilled the President's recommendations. The following charts depict the organization and certain elements of the Department of Transportation and the National Highway Safety Bureau.

THE HIGHWAY SAFETY PROGRAM STANDARDS

1. *Periodic motor vehicle inspection*
2. *Motor vehicle registration*
3. *Motorcycle safety*
4. *Driver education*
5. *Driver licensing*
6. *Codes and laws*
7. *Traffic courts*
8. *Alcohol in relation to highway safety*
9. *Identification and surveillance of accident locations*
10. *Traffic records*
11. *Emergency medical services*
12. *Highway design, construction and maintenance*
13. *Traffic control devices*
14. *Pedestrian safety*
15. *Police traffic service*
16. *Debris hazard control and cleanup*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St. Lawrence Seaway Development Corporation
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Highway Safety Programs Service
(see page 14)
Motor Vehicle Safety Performance Service
National Traffic Safety Institute
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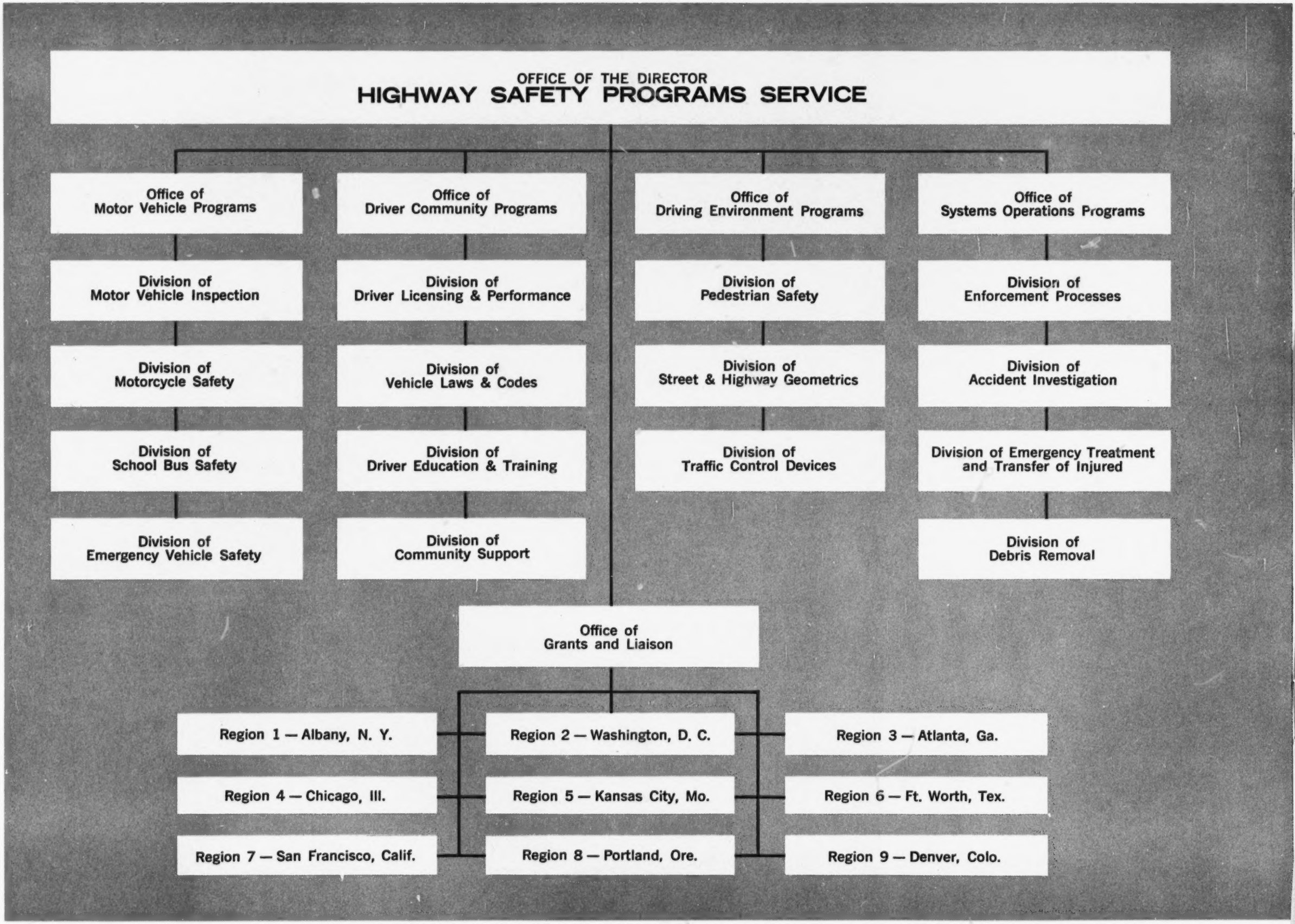
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Division of Vehicle Laws & Codes
Division of Driver Education & Training
Division of Community Support
Office of Driving Environment Programs
Division of Pedestrian Safety
Division of Street & Highway Geometrics
Division of Traffic Control Devices
Office of Systems Operations Programs
Division of Enforcement Processes
Division of Accident Investigation
Division of Emergency Treatment and Transfer of Injured
Division of Debris Removal
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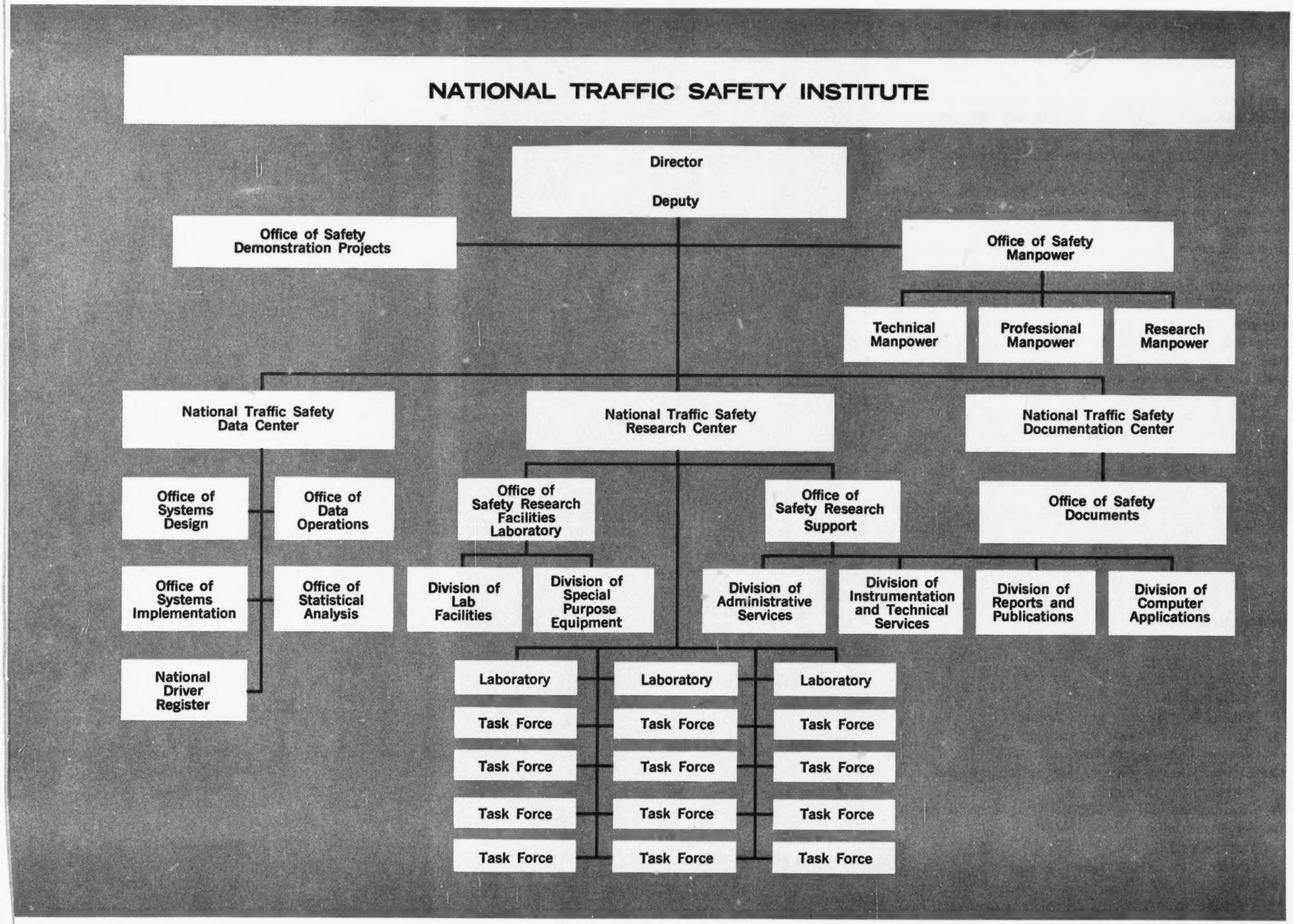
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The National Highway Safety Act

The National Highway Safety Act of 1966 is a giant step toward achieving improved highway safety management. It establishes the role, authority, and responsibility of the federal government, and requires that each state shall have a highway safety program approved by the Secretary of the Department of Transportation designed to reduce traffic accidents.

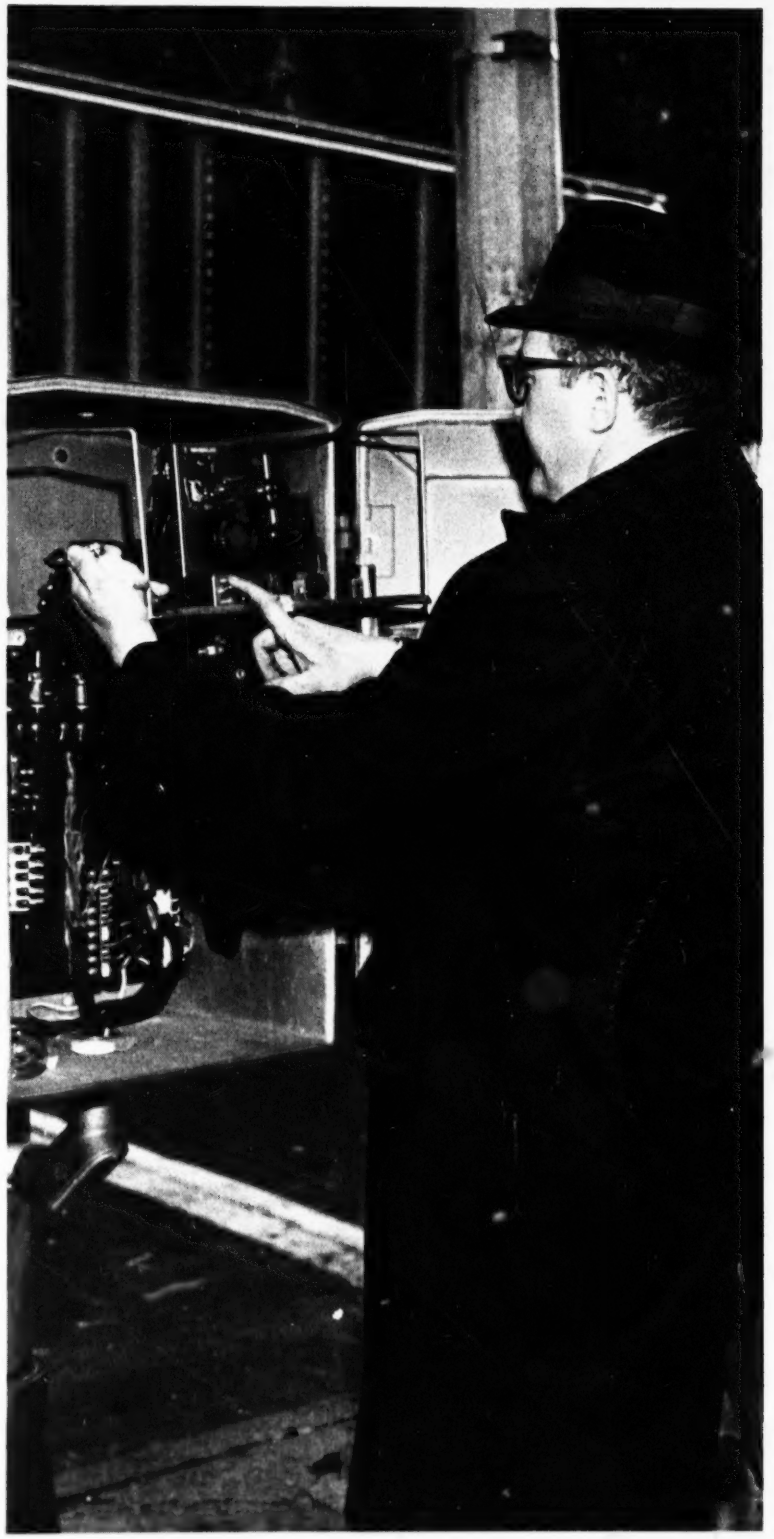
It authorizes the Secretary of the Department of Transportation to promulgate performance standards covering a wide range of highway safety management functions to achieve greater uniformity and effectiveness. It authorizes federal funds for the Federal Highway Safety Program and provides for federal aid funds to match expenditures of states and their political subdivisions for new or improved programs designed to meet the highway safety standards. It provides penalties if the states do not meet the performance standards—loss of highway safety program matching funds and a 10 per cent decrease in federal matching funds for highway construction.

It vests the responsibility for administration of each state's highway safety program in the governor. It requires that at least 40 per cent of the Federal Highway Safety Program matching funds apportioned each year to each state be spent by political subdivisions of the states.

It authorizes funds for research, development, education, and training to be awarded to state or local agencies, institutions, and individuals for approved projects and programs. Contracts for these programs and fellowships are financed entirely by the federal government.

The first sixteen performance standards which were developed are entitled:

- Driver education
- Driver licensing
- Motorcycle safety
- Traffic records
- Alcohol in relation to highway safety
- Periodic motor vehicle inspection
- Motor vehicle registration
- Highway design, construction, and maintenance
- Traffic control devices
- Identification and surveillance of accident locations
- Codes and laws
- Traffic courts
- Emergency medical services
- Pedestrian safety
- Police traffic services
- Accident cleanup.



Following promulgation of the sixteen standards, manuals were prepared. They amplify the standards and provide considerable guidance to states and their political subdivisions in what is to be done to comply with the standards.

The considerable amount of information contained in these manuals will provide everyone, and especially students preparing for a career in some aspect of highway safety management, with a comprehensive background on what needs to be done to achieve a greater degree of highway safety.

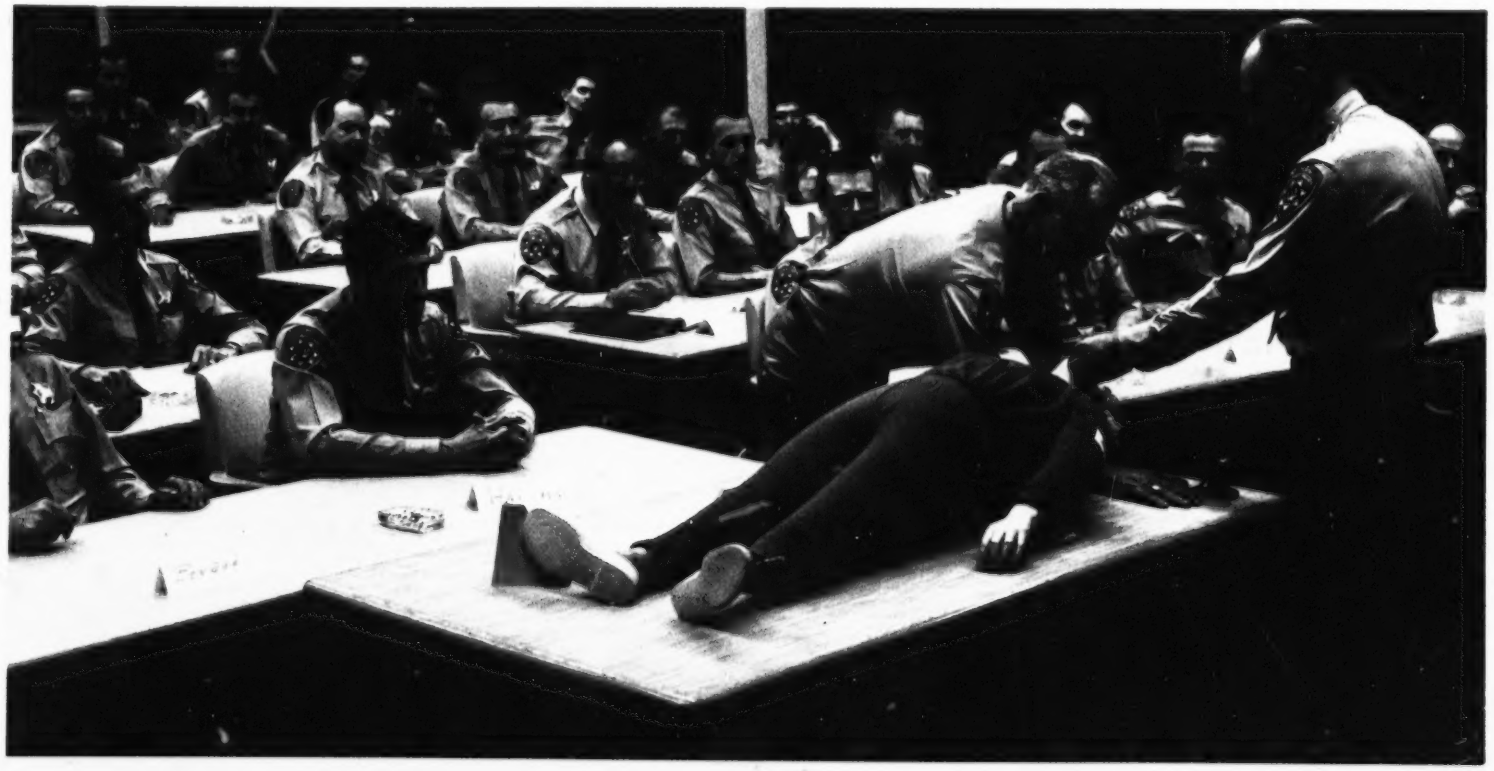
The National Highway Safety Act authorized for the purpose of carrying out its provisions, $77 million for fiscal year 1967, $120 million for fiscal year 1968, and $125 million for fiscal year 1969. Much less than these amounts was appropriated in the first two years and $91 million for fiscal year 1969.

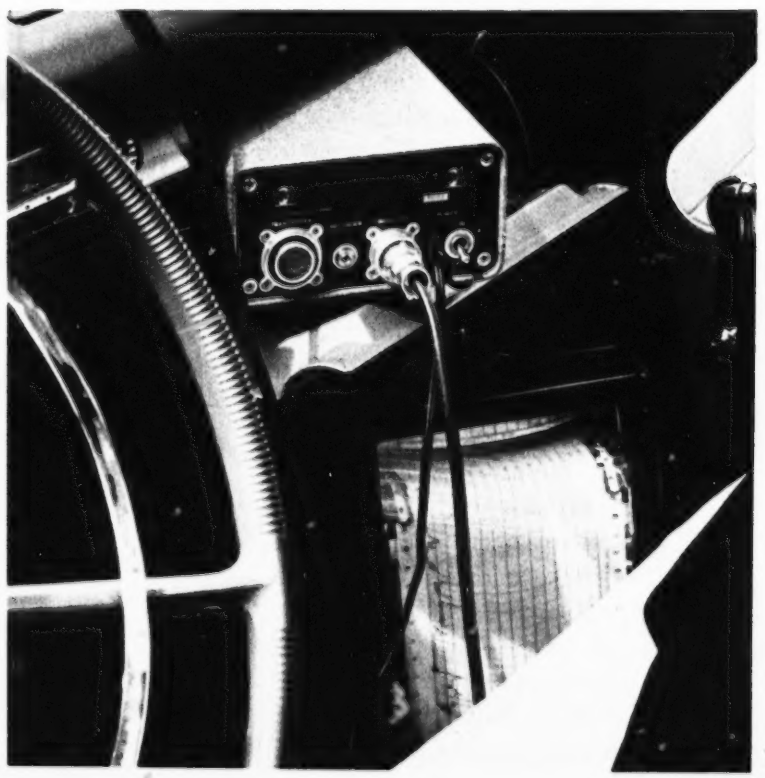
One of the reasons appropriated funds were substantially less than the amounts authorized by the act was that a much smaller amount was needed since programs and projects could not be planned by the states and approved by the secretary during the first nine months after the act was passed. This was due in part to the standards not being issued until the end of June 1967. The scarcity of manpower to serve in the newly created National Highway Safety Bureau, as well as the Highway Safety Program Planning and Administration Offices of the states, was another crucial factor. The shortage of qualified and trained manpower for these offices and the many state and local agencies responsible for highway safety activities will continue to delay optimum fulfillment of the goals of the act for some time to come.

Manpower and Training Needed

It is well recognized that passage of the act and appropriation of funds will not achieve the desired results without sufficient, capable manpower. New and improved programs needed to implement the standards require considerable manpower development. As was pointed out in the report on "Highway Safety Manpower Training" of the Traffic Education and Training Committee of the National Safety Council, three major steps are needed:

1. Education and training of existing personnel in the thousands of state and local departments to develop their understanding of the new programs and to substantially upgrade their performance.
2. Recruitment of personnel to overcome the present shortage, to fill the vacancies created by retirements, resignations, etc., and to meet the need for an even greater number to develop and carry out improved or new programs.
3. Development of additional education and training programs, of both short- and long-term variety, for the thousands of highway safety personnel needed for the wide variety of activities encompassed by the comprehensive highway safety program the states must develop.





Types of highway safety personnel

1. Researchers
   - Researcher educators
   - Postdoctoral and doctoral students
2. Staffs of educational institutions, such as:
   - Directors of highway safety centers
   - Coordinators of educational programs
   - Professors and instructors
   - Researchers
   - Extension (services) personnel
3. Professional personnel, such as:
   - Traffic engineers
   - Driver education teachers and supervisors
   - Automotive safety engineers
4. Highway safety management personnel, such as:
   - State and local highway safety program administrators
   - Federal highway safety personnel (National Highway Safety Bureau and many other federal departments)
   - Administrators and supervisors of state and local highway safety functions, such as policing, driver licensing, etc.
   - National, state, and local safety organization personnel, such as safety council managers, staffs of national support organizations, etc.
5. Highway safety specialists and technicians for functions such as the following:
   - Periodic motor vehicle inspection
   - Motor vehicle registration
   - Highway safety education—school and public
   - Driver licensing
   - Codes and laws—development and enactment
   - Traffic court administration and operation
   - Identification and surveillance of accident locations
   - Traffic records—maintenance and analysis
   - Emergency medical services, care and transportation of the injured
   - Highway design, construction, and maintenance
   - Traffic engineering
   - Law enforcement
   - Public support and safety organization operation
   - Automotive safety engineering
   - Accident investigation
   - Fleet safety supervision such as school bus, government vehicles, and commercial fleets.

For each of the foregoing functions, personnel are needed for different types and levels of activity. To properly fulfill the responsibilities of the many types of positions, different qualifications and educational preparation are essential. The following list of the various categories of personnel needed for the function of driver licensing illustrates the diversity of duties, and suggests the wide range of educational courses and programs needed for that one function: (The same diversity of training and education needs apply to the other functional areas.)

- Driver license examiner
- Driver improvement chief and officers
- Chief driver license examiners and supervisors
- Research and development director
- Records supervisor and assistants
- Financial responsibility administrator
- Data processing and computer specialist
- Public information specialist
- Legal aide
- Department executive, administrators, and field chiefs
- License appeal board officers.

Types of Training etc

The wide diversity in amount, kind, and comprehensiveness of the education needed will vary from short courses and associate degrees to postdoctoral programs for personnel who will work in the highway safety field. Education and training programs will be needed for preservice job or career preparation, supplementary education, and training to upgrade personnel in-service, supervisory and middle-management preparation, and executive development.

This wide range of training and education will be provided in:

- University graduate programs
- University undergraduate programs
- University short courses, conferences, and institutes
- Junior and community college associate degree programs
- Junior and community college preservice, in-service, and transfer programs
- Junior and community college noncredit workshops and institutes
- Governmental agencies, academies, and specialized courses and schools
- Commercial and technical schools and institutes.

THE COMMUNITY COLLEGE CONTRIBUTION TO TRAFFIC TECHNICIAN PROGRAMS

TRAFFIC TECHNICIAN PROGRAMS

CLIENTELE

Government, business, and industry
High school students served by the community college
Community college students enrolled in other fields

MAJOR CLASSIFICATIONS

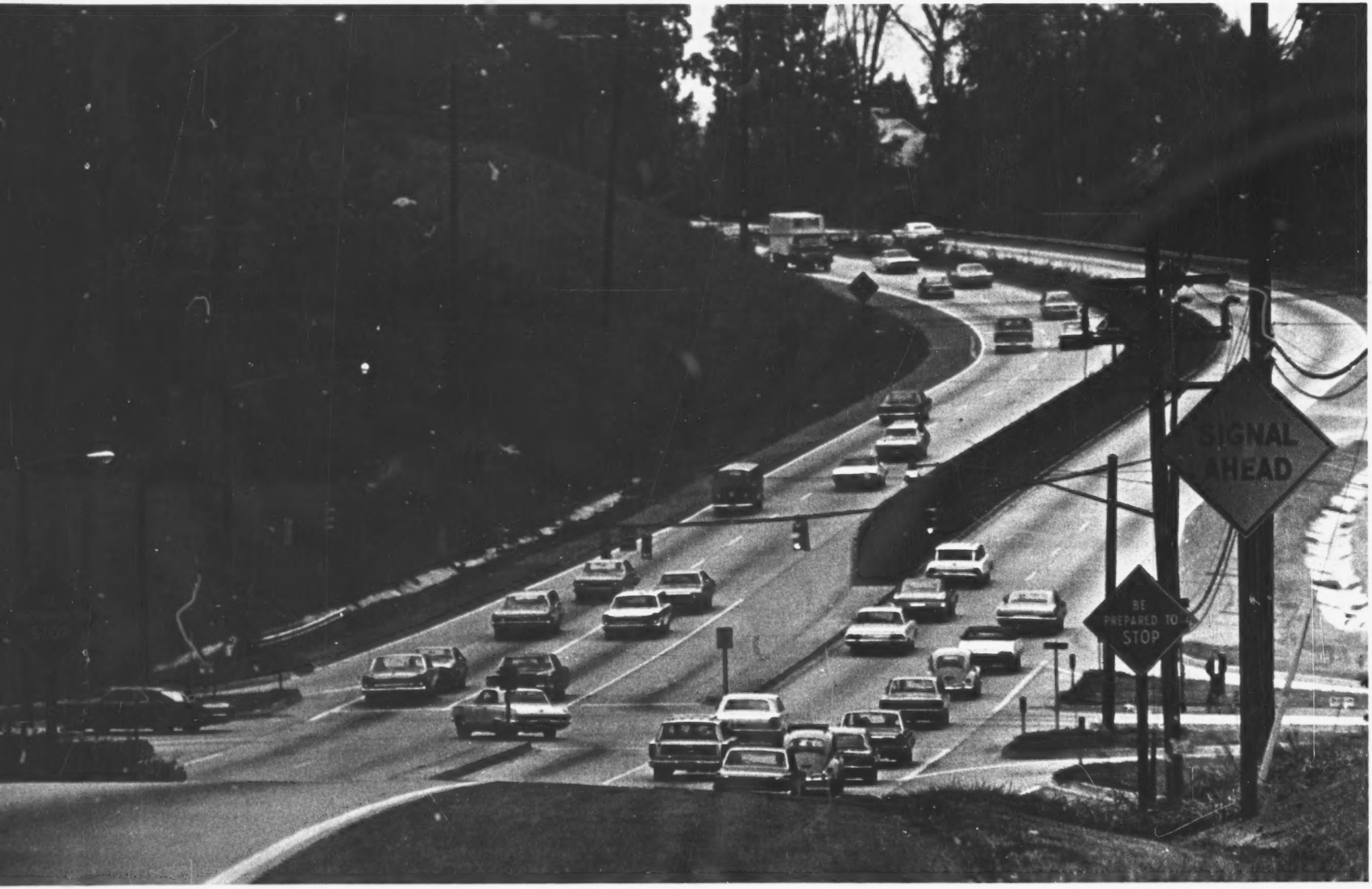
Motor vehicle administration
Traffic engineering
Police traffic services
Driver and traffic safety education
Commercial highway transportation
General education and a basic traffic core

COMMUNITY AND CAMPUS SURVEY OF NEEDS

Initial step
Problems to be anticipated
A survey team
Advisory committee

CURRICULUM PATTERNS

Bibliography


SIGNAL
AHEAD
BE
PREPARED TO
STOP

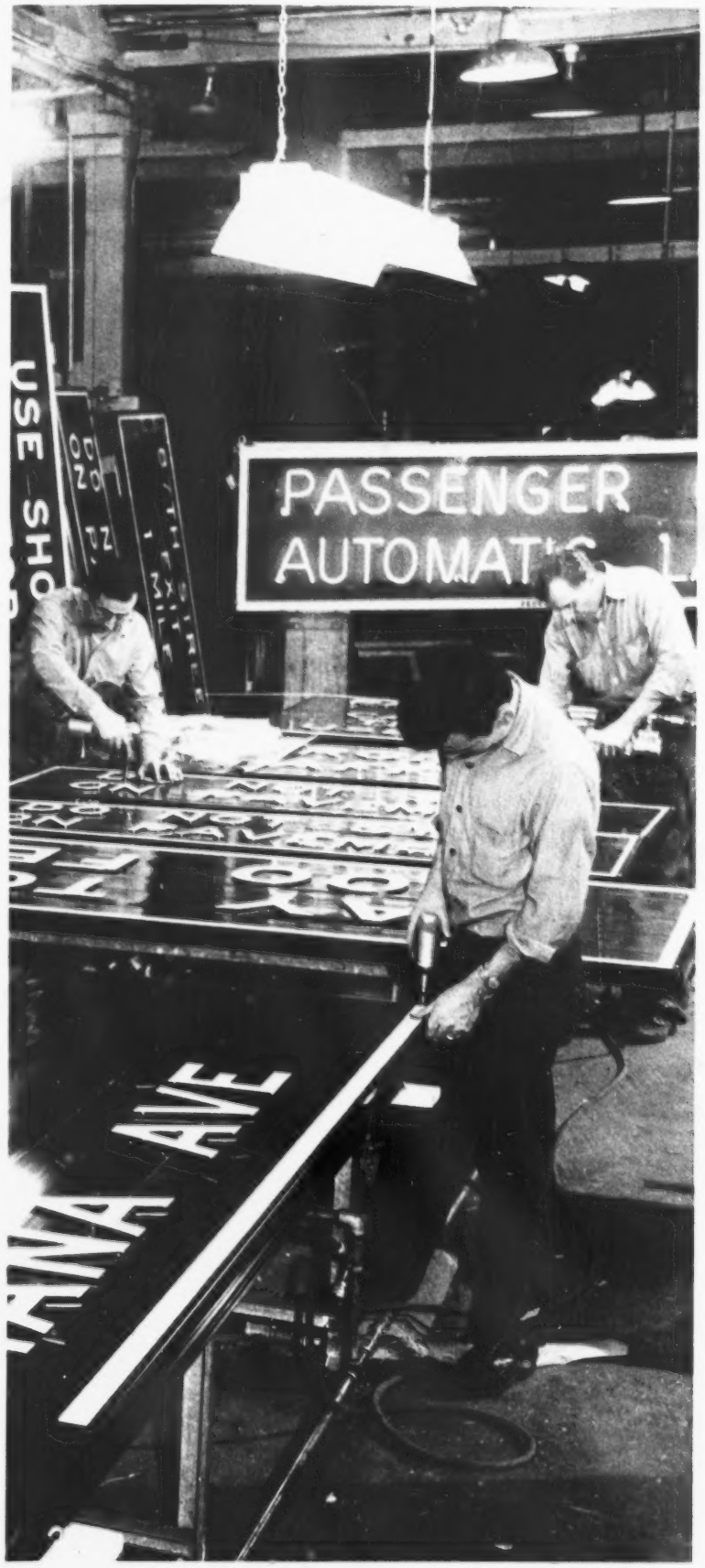
CLIENTELE

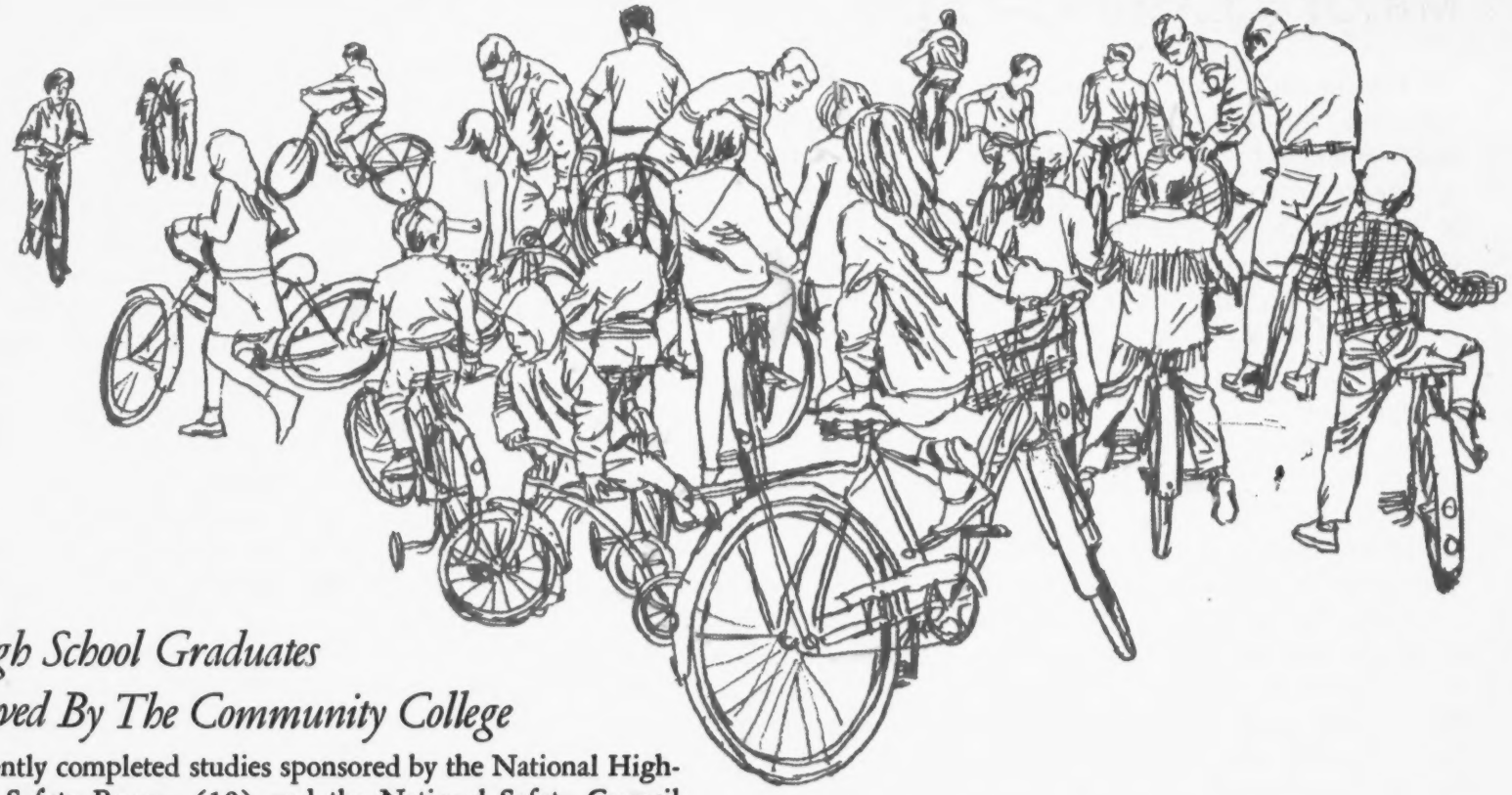
Potential students for a traffic-related curriculum in the community college will come from (1) government, business, and industrial groups engaged in some phase of traffic management; (2) high schools served by the community college; and (3) community college students enrolled in other fields.

Government, Business, and Industry

Perhaps in the early stages of the program, this will be the primary source of students. As previously indicated a crucial need exists for increasing the competency of those already employed as traffic specialists. Within this category of in-service personnel are the following subgroups which should be considered in program development:

1. Those seeking additional knowledge and skill directly related to the performance of their job
2. Those interested, not only in becoming more proficient within their present assignment, but also in acquiring a broader base which would increase their chances of assuming additional responsibilities or another position in the traffic field at the specialist or technician level. Perhaps this person aspires to a career of broader dimensions, one that requires a "generalist"
3. Those who aspire to move into supervisory or management position within a given function. For example, a driver license examiner may wish to become a district supervisor.





High School Graduates Served By The Community College

Recently completed studies sponsored by the National Highway Safety Bureau (10) and the National Safety Council (25) reveal the present manpower shortage in the traffic management field, and they also forecast the tremendous numbers that will be needed in the future. The findings of these studies, plus local surveys, will be of interest to high school students who are making career plans. Community college personnel responsible for working with local high school career programs should make certain that high school guidance counselors and driver education teachers expose students to this information.

Interested high school students will fall into three subgroups:

1. Those who are primarily occupationally oriented and interested solely in acquiring the skills needed to perform a specific traffic-related task for which positions are available.
2. Those aspiring to an associate of arts degree which prepares them to enter the traffic field at the subprofessional or technicians level, and which also gives them the general education and basic traffic core essential for professional growth.
3. Those who have decided on a career in highway traffic management, but plan to continue their formal education at a university following the community college experience.

Community College Students Enrolled In Other Fields

A part of any college student body is uncertain about their career plans, or are unhappy with the tentative decision they have made. This group is another source of students for the traffic courses.

If the traffic program is new, the chances are that many students and faculty too, are unaware of the career opportunities in this field. Therefore, the director should create a close liaison with the community college guidance personnel. Furthermore, he should familiarize other faculty members, particularly those on occupational programs, with the traffic program. When the program is underway, students who have completed courses, or the entire curriculum, will serve to inform other students.

The diversity of clientele poses a problem when efforts are made to develop courses and curriculum patterns which satisfy more than one type of clientele. To resolve this problem, valuable clues can be obtained by surveying the needs of official traffic agencies within the area served by the community college. Suggested guidelines for undertaking a survey follow on pages 24-33.

MAJOR CLASSIFICATIONS

To expand and classify the many opportunities for traffic specialists and technicians, the following breakdown of major functional areas is presented:

A. MOTOR VEHICLE ADMINISTRATION
B. TRAFFIC ENGINEERING
C. POLICE TRAFFIC SERVICES
D. DRIVER AND TRAFFIC SAFETY EDUCATION
E. COMMERCIAL HIGHWAY TRANSPORTATION

Identified within each of the five areas are the *distinctive* competencies, concepts, and skills associated with that particular function. Following this breakdown, on page 33, the reader will find an additional category titled "General Education and Basic Traffic Core" which includes a list of concepts and skills, each of which was common to the five major classifications. This knowledge does not appear under the breakdown of the major classifications, for to do so would have produced five-fold repetition. Therefore, in assessing the concepts and skills essential to the development of the competencies in each of the five major areas, the reader will have to add this common knowledge.

Two additional points need to be stated: (a) within each of the functional areas there are many specific jobs, each of which do not necessarily require all of the competencies identified for that total function; (b) the listings of competencies, concepts, and skills in this section do *not* represent a *complete* picture of the functional areas. They are only a sample to give the reader a general idea of the breadth and depth of each area. Curriculum guides to be developed later will include a more extensive treatment.

A. MOTOR VEHICLE ADMINISTRATION

OVERVIEW:

Motor vehicle administration is a highly complex state function designed to control motor vehicles and their operation. The basic elements are driver licensing and driver improvement, vehicle registration and titling, vehicle inspection, and financial responsibility. Unfortunately, in many states the responsibility for these elements is scattered over several departments, which makes effective coordination difficult. However, with the rapid increase in motor vehicles and drivers, and the accompanying accident toll, it has become apparent that every state will need a highly efficient, independent agency, headed by a high-ranking official.

Modern day demands on motor vehicle administration personnel require continued emphasis on education and training. To successfully cope with these demands and to insure the effectiveness of programs, the administrator must require that personnel on all levels within the organization receive appropriate training.

Community and junior colleges can establish educational programs designed to increase the competence of those already employed, and those preparing for employment, in one of the motor vehicle administration departments. Upon successful completion of such a program, the product would be qualified to perform a number of the following functions, and in some cases, possess the potential to move eventually to a supervisory of midmanagement level of performance.

COMPETENCIES:

The instruction would be organized to help students achieve proficiency in one or more of the following:

1. Determining the driving qualifications of individuals (who are or are not qualified to drive), as well as their need for additional instruction, study, or driving practice
2. Analyzing driver's violation and accident records, and evaluating mental and physical conditions which may affect their driving.
3. Interviewing persons who have accumulated a bad driving record, and recommending appropriate remedial measures (suspension, revocation, etc.)
4. Counseling driver license applicants and problem drivers about their weaknesses, and suggesting self-improvement activities
5. Conducting driver-improvement clinics
6. Helping to implement the provisions of the vehicle code relating to issuance, supervision, and revocation of vehicle titles and registrations

7. Supervising motor vehicle inspection programs
8. Helping to implement the provisions of the vehicle code regarding financial responsibilities in case of involvement in a motor vehicle accident
9. Evaluating trends and new procedures and suggesting means of improving the operation of department business through automation or some other process
10. Serving as a data processing and computer specialist
11. Assisting in the preparation of publications and informational bulletins
12. Assisting in planning and conducting training programs within the department
13. Representing the department in relations with official accident prevention agencies and organized traffic safety committees
14. Providing information and assistance to interested civic, fraternal, and professional organizations, and participating in public speaking assignments
15. Supervising clerical personnel.

CONCEPTS:

To perform a number of the competencies previously outlined, the student should acquire insights related to:

1. Basic purposes, principles, and philosophy of driver licensing and driver improvement
2. Procedures in driver licensing and driver improvement
3. Analysis of driving records
4. Legal and philosophical aspects of motor vehicle administration
5. Methods of administering and evaluating driver examinations
6. Analysis of the driving task
7. Financial responsibility law
8. Registration and titling—principles and procedures
9. Administration of motor vehicle inspection programs
10. Rules of evidence
11. Interdepartmental organization of motor vehicle administration
12. National driver register service
13. Basic accounting and audit procedures applicable to motor vehicle administration.

SKILLS:

The following skills are basic to performing the previously identified competencies:

1. Scoring and evaluating driver performances
2. Interviewing and counseling drivers
3. Operating and maintaining driver testing equipment
4. Assessing physical and mental disabilities
5. Operating and maintaining motor vehicle inspection equipment
6. Coding and indexing
7. Processing applications for motor vehicle and driver licenses.

The motor vehicle administration field is experiencing the impact of technological advances which are affecting marked changes and improvements within this functioning area. These advances impose a responsibility on an administrator to secure personnel who are prepared to carry out the techniques derived from the innovations.

There is no intent to imply that the product of a community college program in motor vehicle administration will be ready to function proficiently in each and every one of the positions at the technician level. As suggested previously, motor vehicle administration covers a wide diversity of elements, and although some of them are closely related (driver licensing, driver records, and driver improvement), others demand rather distinctive and high-level skills and knowledge. Therefore, it would be unlikely that any one person could master all of them.

The curriculum would include a "core of learning experiences" valuable to anyone entering motor vehicle administration, and also specialized learnings to accommodate specific needs and interests. One can readily recognize that certain concepts and skills are common learning (philosophy of motor vehicle administration, communication skills), while others are tailored for specific functions (procedures in driver licensing, interviewing, and counseling drivers). The specialized knowledge and skill will help the student to be proficient immediately in a given function, while the core experiences will increase his potential for moving to a supervisory or midmanagement level.

B. TRAFFIC ENGINEERING

OVERVIEW:

A basic function of traffic engineering is to deal with traffic operations, using a variety of devices and techniques, such as planning and geometric design, signs and signals, parking restrictions, and one-way streets.

The program in traffic engineering technology is designed to prepare technicians to work under the supervision of professional engineers responsible for traffic planning. Upon successful completion of a program of studies, the student should have the knowledge, understanding, and skills necessary to work in support of a traffic engineer or in a related scientific traffic activity.

COMPETENCIES:

A program of studies should be developed to enable students to gain proficiency and competence in:

1. Installing and maintaining automatic traffic counting equipment
2. Collecting parking accumulation and turnover data
3. Calculating intersection capacity
4. Computing traffic signal timing based on fluctuating traffic demands
5. Preparing and analyzing accident report summaries and collision diagrams
6. Determining appropriate design and application of traffic signs
7. Developing channelization design including dimensions and necessary control devices
8. Participating in traffic-related activities of urban planning organizations
9. Assisting in geometric design of highway and parking facilities
10. Conducting field investigations.

CONCEPTS:

To execute the tasks outlined as competencies, the student should have knowledge and understanding of:

1. Physics
2. Engineering drawing
3. The collection and use of technical traffic operation data
4. The principles of highway engineering
5. The types of motor vehicles and their characteristics
6. Traffic flow characteristics
7. Highway lighting and delineation
8. Traffic signals, signs, and markings
9. Highway capacity
10. Public information and support of traffic engineering

Geometric design
Traffic materials and equipment.

SKILLS:

A student wishing to fulfill the requirements for an emphasis area in traffic engineering technology, must possess skills in:

1. Map sketching
2. Drawing of graphs, charts, and statistical data
3. Use of traffic surveying equipment
4. Drafting
5. Analyzing traffic data
6. Traffic estimation
7. Testing effectiveness of traffic control devices
8. Using photographic equipment.

The above guidelines were developed in the hopes that a traffic technician could be educated and trained to assist the professional traffic engineer. Such a program could be offered in a community college. The comprehensive core for traffic engineering technology may derive concepts from a number of disciplines, e. g., the sciences (natural, physical, and social), mathematics, and language arts. In addition to these, a number of concepts and skills relating to a variety of traffic engineering services are offered in other classification areas, such as police traffic services. For example, technicians in both of these areas should be knowledgeable in traffic accident investigation.

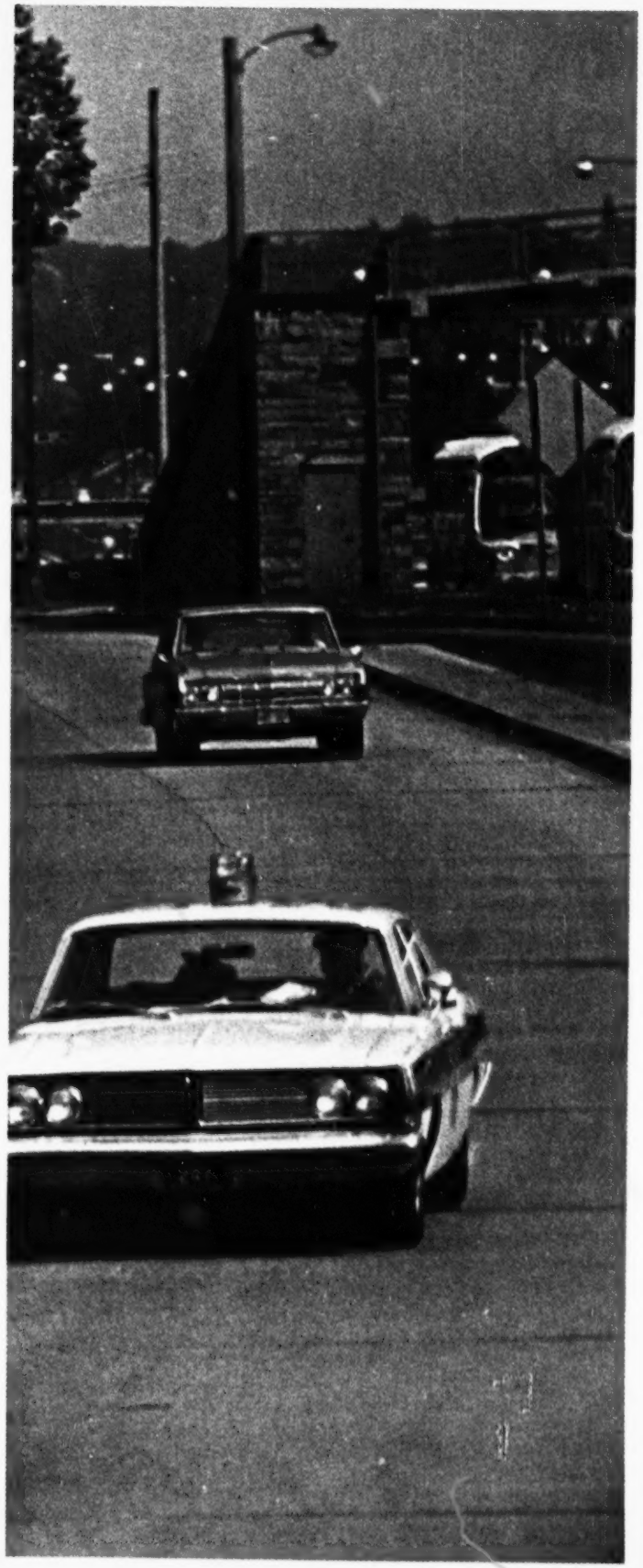
Because of the nature of traffic engineering technology, representatives of the Institute of Traffic Engineers propose that the sequence of study provide for cooperative, on-the-job training as an integral part of the program of studies. Representatives of the ITE have indicated their interest and willingness to cooperate with the community college in establishing a program of instruction designed to meet these objectives.

C. POLICE TRAFFIC SERVICES

OVERVIEW:
The program is designed to prepare traffic specialists for service with state, municipal, and county law enforcement agencies. This specialist could be either (1) a law enforcement officer specializing in traffic, or (2) a civilian employed by a law enforcement agency to handle traffic-related tasks. In any case, the curriculum will meet the needs of both the person who aspires to this type of career (preservice), and also the person already assigned to traffic who desires to increase his competency (in-service).

COMPETENCIES:
The individual completing this program of studies will be capable of:

1. Investigating and reporting accidents
2. Reconstructing accident situations to acquire insights helpful in accident prevention and in other areas of traffic management
3. Recording, interpreting, and presenting data (some will be prepared to design data systems)
4. Preparing traffic cases for court presentation
5. Using and interpreting the significance of chemical tests, speed measuring devices, and other scientific means of traffic law enforcement
6. Developing and implementing emergency medical service programs
7. Recognizing and handling emergency and hazardous situations (traffic, crowd control, etc.)
8. Developing and administering traffic management and manpower deployment programs
9. Communicating effectively with individuals and groups within the police department



10. Communicating effectively with individuals and agencies outside the police department (traffic courts, highway users, traffic engineers, government officials, schools, etc.).

CONCEPTS:

In the process of developing the capabilities listed previously under "competencies," the person will acquire insights related to:

1. Fundamentals of law enforcement
2. Interdepartmental organization (police)
3. Philosophy of traffic law enforcement
4. Ethical and legal responsibilities relating to police traffic services
5. Traffic information and information systems
6. Traffic materials and equipment
7. Traffic education
8. Motor vehicle administration
9. Emergency and rescue operations
10. Police communication systems
11. Police–court relationships
12. Police–community relationships.

SKILLS:

To perform the tasks listed under "competencies" the police traffic technician will need, to a considerable degree, proficiency in:

1. Photography
2. Preparing accident reports
3. Using traffic enforcement aids
4. Patrol techniques.

Recent and forthcoming federal and state legislative acts, designed to control and remedy conditions contributing to the increasing motor vehicle death and accident rate, have created a groundswell of interest in the field of police traffic services. Public and private programs, organized to administer control measures, will require increasing numbers of professional and technical personnel.

The concepts and skills previously outlined represent the framework for a program designed to develop police traffic specialists for service in the broad field of traffic management. Recognizing that an in-depth study in any one of the major objectives of police traffic services could be a full two-year program in itself, consideration may be given to a comprehensive core curriculum, derived from general education requirements and the fundamental concepts of traffic safety. Such a design would allow the student versatility in his program of studies, and permit specialization within the primary structure of police traffic services.

D. TRAFFIC SAFETY EDUCATION

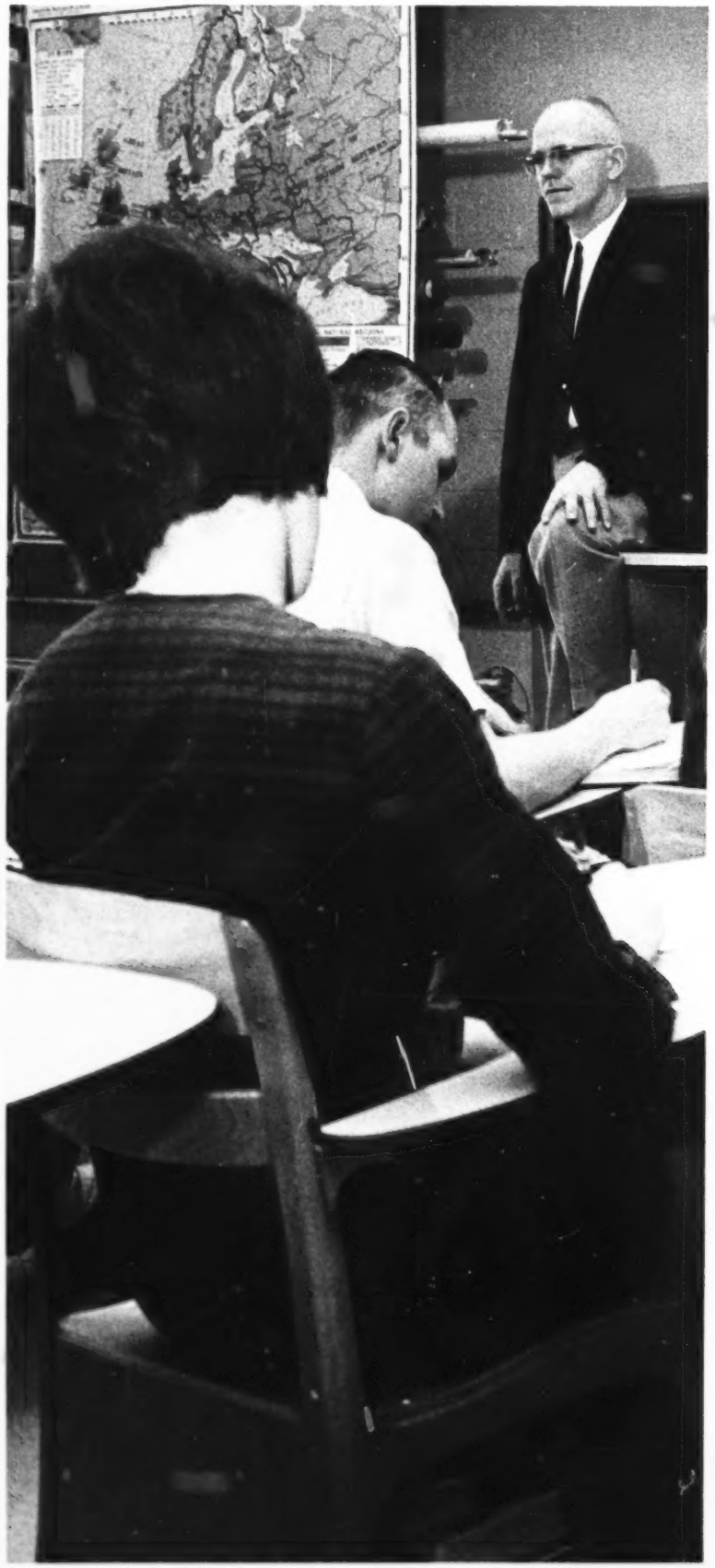
OVERVIEW:

The program is designed to prepare students for a career in traffic safety education and training at a subprofessional level. Opportunities for employment may appear in any of the other major functional areas, or in the public schools as an aid to the driver education teacher.

COMPETENCIES:

The student completing this program would be prepared to:

1. Assist the professional driver educator
2. Perform duties in the training division of traffic law enforcement
3. Assist in driver improvement programs associated with traffic courts or motor vehicle departments
4. Serve as a safety education supervisor to commercial highway transportation enterprises
5. Assist researchers in the data gathering phase of projects
6. Serve as a safety education officer in a highway patrol or police department
7. Enroll in a university curriculum designed to prepare a professional driver and traffic safety education teacher.



CONCEPTS:
To perform the specified competencies the student should understand the following concepts:

1. The traffic accident problem
2. Motor vehicle laws
3. Forces of nature
4. The driving task
5. Factors influencing driver behavior
6. Dynamics of vehicle control
7. Psychophysical testing
8. Motor skill development
9. Elementary learning theory
10. Audiovisual aids
11. Resources in traffic safety education
12. Traffic safety agencies
13. The role of education in traffic management
14. Driver rehabilitation.

SKILLS:
To perform effectively the tasks of the traffic safety education technician, the students need to acquire skill in:

1. Motor vehicle operation
2. Administering psychophysical and other testing equipment
3. Gathering the illustrating data
4. Preparing audiovisual aids
5. Using audiovisual equipment
6. Maintaining equipment and facilities associated with driver and traffic safety education.

This section does not mean to suggest that the community college graduate will be qualified to teach high school driver and traffic safety education. In fact, by law he would not be permitted to do so in most states. However, the person completing this program could assist the professional driver educator as a "teacher aide," a concept which is becoming increasingly prevalent in other school subjects. For example, under the direction of a fully qualified teacher he might perform the following tasks:

1. See that the driver education vehicles are properly maintained
2. Maintain records associated with administrative and instruction matters
3. Set up and operate audiovisual equipment (including driving simulators)
4. Correct and grade examination papers
5. Supervise students at times when the teacher is otherwise occupied
6. Set up and maintain the multiple car facility and equipment
7. Develop audiovisual aids
8. Supervise students on field trips.

If the traffic safety technician assumes these tasks, then the teacher will have more time for curriculum development, individual counseling, and other functions directly related to the learning process.

E. COMMERCIAL HIGHWAY TRANSPORTATION

OVERVIEW:

The program is designed to prepare traffic specialists for spectrum of opportunities in the field of commercial highway transportation, and to equip them with the potential to function at a middle management level in one or more of these careers. Employment opportunities are found in public service commissions, state and federal administrative agencies, insurance companies, motor fleet operations, and other organizations concerned with commercial highway transportation. Content has been selected to provide students with concepts and skills basic to a variety of these opportunities.

COMPETENCIES:

The individual completing this program of studies will be capable of:

1. Administering safety programs
2. Gathering and analyzing accident data
3. Selecting, training, and supervising drivers
4. Implementing driver incentive programs
5. Dispatching and scheduling
6. Overseeing driver compliance with company, state, and federal regulations
7. Implementing some phases of the union contract
8. Selling services of commercial highway transportation
9. Supervising the loading and unloading of trailers
10. Communicating effectively with individuals and groups within and outside the organization
11. Budgeting
12. Rating and billing
13. Marketing and market analysis
14. Handling security operations
15. Working with data processing systems.

CONCEPTS:

The student will acquire insights relative to:

1. Safety principles of commercial highway transportation
2. Vehicle control center procedures
3. Terminology related to the transportation industry
4. Mechanical principles of the motor vehicle
5. Instruments and equipment associated with commercial highway transportation
6. Materials and products available and used in the highway transportation industry
7. Legal aspects of commercial highway transportation
8. The role and function of commercial highway transportation in the American society
9. Ethical responsibility of persons working in the transportation fields
10. Basic instructional techniques
11. Accident investigation and reconstruction
12. Labor relations
13. Emergency precautions and procedures
14. Unit and personnel management
15. Intermodal relationships (track and bus to air and railway transportation)
16. Government regulations related to transportation systems
17. Services and sources of information available to the commercial transportation industry.

SKILLS:
The curriculum will include instruction in the following skill areas:

1. Preparing transportation documents
2. Computing rates
3. Tracing and expediting cargo
4. Adjusting claims.

The preceding objectives and guidelines are a composite of the total educational base considered appropriate for the beginning commercial highway transportation technician. Distinguishable in the guidelines is the richness and comprehensiveness of the safety content that a prospective technician requires as background. Concurrent with this curriculum focal point is the emphasis on interpersonnel relationships. Seemingly, the proposal implies a program of isolated objectives; but on the contrary, the study is envisioned as a two-year program offering a variety of concepts and skills.

The college planning to offer this program should consider in its design the value of coordinating academic learning with real experiences that could be offered by local trucking companies. Cooperative education serves to acquaint students with the nonacademic phase of the study, and provides employment opportunity commensurate with the technician's classroom training.

GENERAL EDUCATION AND BASIC TRAFFIC CORE

After the competencies, concepts, and skills of the five major functional areas were identified by the advisory groups, common learnings were apparent. Some of these were general education (communication skills), while others were traffic oriented (driver and pedestrian characteristics). These basic or core learnings were extracted from the functional areas and are classified here under concepts and skills without regard for sequential or heirarchical order. This content is basic to a course of study for any one of the five major functional areas.

CONCEPTS:
To ultimately become a competent technician in any one of the five functional areas, the student should possess a foundation of understandings represented by these concepts:

1. Rules of the road and traffic control devices
2. Factors influencing driver behavior
3. The driving task
4. Causes of traffic accidents
5. Courtroom procedures
6. Legislative process
7. Administrative process and personnel management
8. Structure and function of highway transportation agencies
9. National Highway Safety Act
10. Basic statistical method and technique
11. Data processing methods
12. Fundamental business practices
13. Public information services and public relations
14. Professional ethics
15. Philosophy of public service
16. Basic mathematics
17. Dynamics of human behavior
18. Safety principles in motor vehicle transportation
19. Traffic information and information systems
20. Traffic laws and ordinances
21. Vehicle dynamics
22. Traffic safety foundations, institutes, associations, and councils
23. Driver and pedestrian characteristics
24. Civil and criminal liability
25. Interpersonal and group dynamics
26. Communications, both oral and written
27. Methods of observation, reporting, and recording
28. Alcohol and drugs, and their effect on the motor vehicle driver.

SKILLS:
To function proficiently as a technician in any one of the five specialty groups, the student should exhibit ability in most, if not all, of the following skills:

1. Analyzing traffic, vehicle, and driver data
2. Observing, recording, and reporting driver and vehicle information
3. Operating audiovisual-aid equipment
4. Operating office equipment
5. Speaking and writing
6. Report and letter writing
7. Performing fundamental statistical computations
8. Use of the telephone and other communication devices
9. Interviewing
10. Illustrating data
11. Typing and maintaining basic filing systems
12. Using tools, such as found in basic motor vehicle repair kit
13. First-aid and emergency procedures.

In some situations the community college may wish to use this content as a guide for the development of a general traffic curriculum that would give students a basic core of learning in preparation for entering any one of the five major functional areas.

COMMUNITY AND CAMPUS SURVEY OF NEEDS

The preceding section presented five options, and a possible sixth, for a traffic-related occupational educational curriculum. Assuming that a junior college administration is persuaded that a need exists for education and training in this field, how do they know which of these paths to take? The obvious answer is to survey the need for traffic specialists in the area served by the college. Techniques are already well known for making such surveys, but the following thoughts are presented to help the community college administrator apply general survey principles to the particular area of highway transportation.

INITIAL STEP

As a first step, he should attempt to open lines of communication between the college, which has the capability of organizing and administering programs, and the potential employers of the students who enroll. Initiate informal discussions with the most competent police administrator, traffic engineer, traffic court judge, driver education supervisor or teacher, driver licensing official, and safety council director. The purpose of these informal contacts is simply to make a rough assessment of (1) the market potential, and (2) the types of programs and course offerings the community college should provide. In addition, the discussions with these people may identify potential members of an advisory committee, and also part-time teachers or guest lecturers.

The success of the program will depend in large measure on the rapport established with these traffic officials. They need your educational offerings to increase the competency of their personnel, and the community college programs need them for ideas, students, part-time instructors, and general support. Involve them early because what people help to plan, they are more likely to support.

PROBLEMS TO BE ANTICIPATED

Do not be discouraged if at first, some of these officials are less than enthusiastic about the community college entering the traffic field. In fact, you may find that a few resent your intrusion, while others simply will not see the need. Remember, when many of these people entered traffic law enforcement or one of the other traffic specialties, there were no formal educational programs. They learned on the job, and some moved up the ladder to an administrative or supervisory level, making it difficult for them to see the

need for training. However, with the proper approach, they will eventually learn the potential of the community college for producing traffic specialists and technicians, and also for increasing the proficiency of their in-service employees.

In spite of the warning expressed in the preceding paragraph, the chances are that the community college will find considerable interest when these informal contacts are made with the traffic officials. Not that you will find traffic administrators ready to hire large numbers of new recruits, or anxious to send one hundred employees to a course, but nevertheless, there will be real interest and encouragement for your college to move ahead. However, the interest may be too vague, particularly in regard to the employment opportunities, for your college to make definite decisions and plans.

A SURVEY TEAM

At this point, a more sophisticated survey may be in order. This survey could be developed by administrative personnel in the community college responsible for new program development, by an outside group greatly interested in the potential of the community college for improving their occupational area, or by an advisory group combining the two interests. In any case, the survey should obtain employment statistics of the locale in the traffic field. Unfortunately, civil service classifications will not coincide with the classifications identified in this report. Nevertheless, the Civil Service Commission is one source of information. In addition, local and state professional associations, as well as local and state chambers of commerce, and state employment agencies are cooperative in making membership lists and job classifications available for surveys. Perhaps the best source of information in the traffic field is to contact directly local and state police departments, traffic and highway engineering departments, boards of education, and the state motor vehicle department.

While information regarding employment opportunities and other off-campus factors is being acquired, the survey team should, at the same time, be investigating and stimulating student and faculty interest. Student interest is paramount if a new program is to thrive, for the obvious reason that courses and classes need students. (Classes *are* students.) The student body may have to be educated regarding the careers in traffic management and safety, because many of the occupations in this field are not as clearly identified as in other occupational areas. Faculty members, in their advisory and teaching function, can help to create student interest when they understand and believe in a curriculum offering. Furthermore, when the time comes for developing curriculum the faculty becomes important for another reason. You may need one or more of them to teach a new course, or at least integrate certain traffic-related concepts on their subject speciality. In short, students and faculty are essential elements in program development, and they should be involved from the outset.

ADVISORY COMMITTEE

The kind of comprehensive survey suggested here needs the leadership of one who understands the methods to be pursued and the pitfalls to be avoided. He will need time and the assistance of many other people. When preliminary information acquired through the informal discussions suggested earlier indicates that the college should do something (but "what" is unclear), the appointment of an advisory committee could be helpful. To provide a necessary communication link between the junior college and the community it serves, the committee should include appropriate and representative personnel from both on-campus and off-campus. Properly organized with responsibilities clearly identified, this committee can help to: (1) determine needs, (2) develop curriculums, (3) evaluate the program, and (4) provide continuing support and counsel.

More information regarding the formation and function of advisory committees can be found in *The Role of the Advisory Committee in Occupational Education in the Junior College* (29).

CURRICULUM PATTERNS

After interpretating the information acquired through the survey, the community college officials then make predictions about curriculum. On the basis of these predictions, certain decisions are made regarding educational offerings, and ultimately these decisions are implemented within the limits of staff, facilities, and other factors. The validity of the decisions will depend on the quality of the predictions, which in turn go back to the survey information.

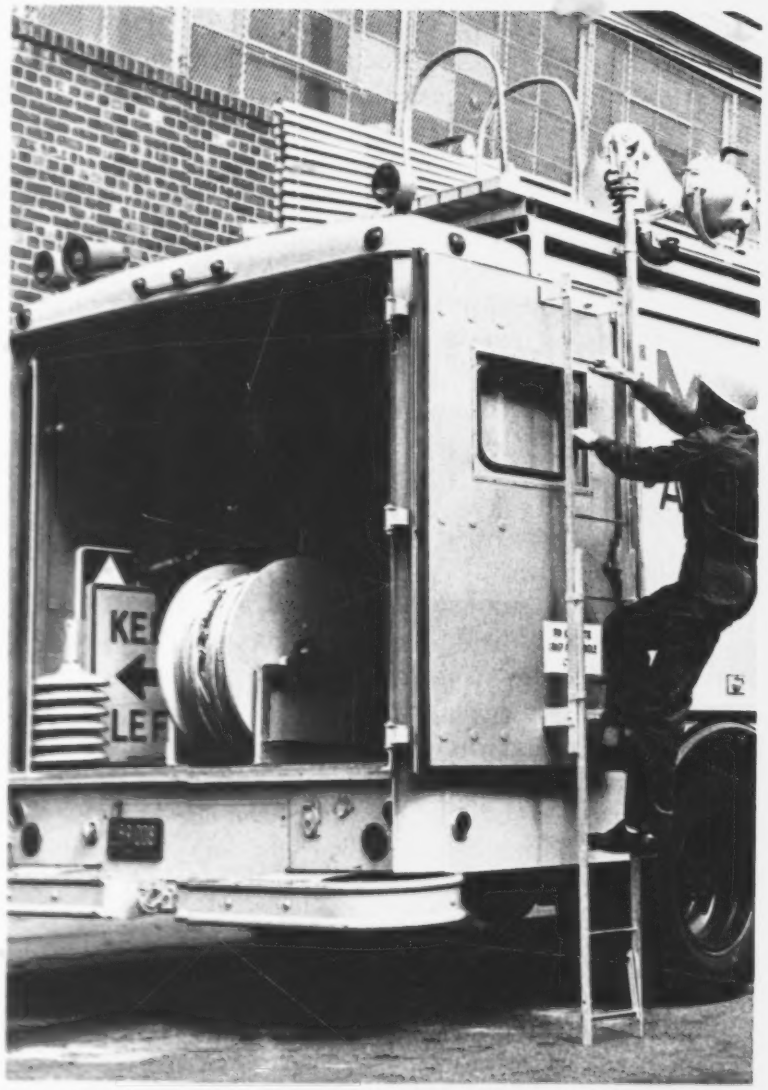
Here are some possible approaches which could be used, if they seem appropriate, on the basis of survey data.

1. Offer one or more short courses or conferences to satisfy immediate and specific needs revealed by the survey.
2. Offer a few core courses which would have wide applicability in the traffic field, and thus appeal to anyone interested in preservice or in-service education in traffic management regardless of his special interest.

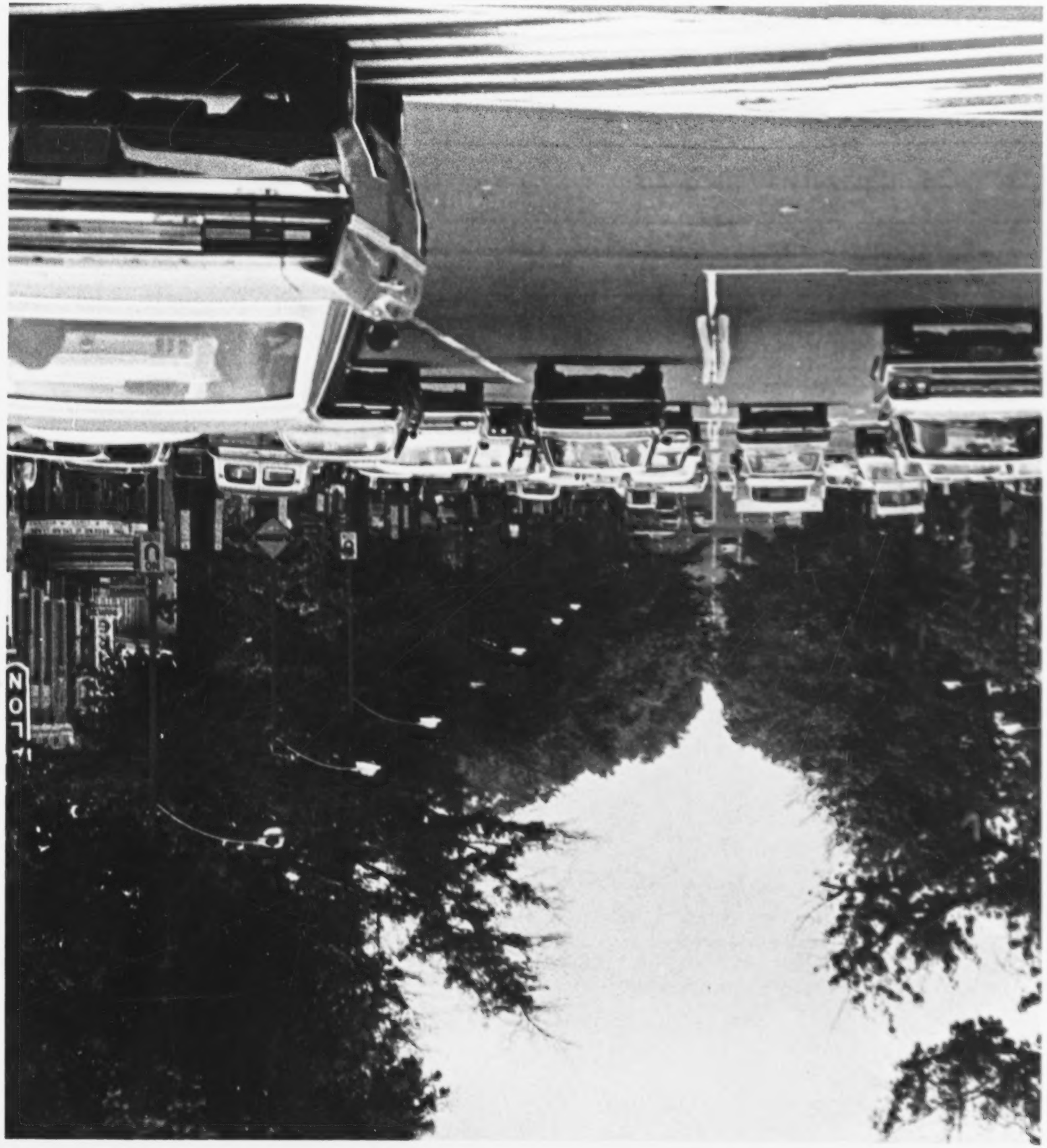
   A few suggestions are:

   The highway transportation system
   Traffic accident reporting and records systems
   Fundamentals of traffic engineering
   Driver improvement
   Motor vehicle laws and regulations.

   These courses would be basic to traffic engineering, traffic law enforcement, traffic safety education, and motor vehicle administration.
3. Develop a few technical courses which are designed to prepare the individual for a specific position, such as driver analyst, traffic engineering technician, public information specialist, etc. Of course, the criterion for selecting the options would be the "market" in that locality.
4. Plan a comprehensive curriculum which would be a combination of #2 and #3. All students would enroll in the core courses, and then select from the options depending upon their interests and aspirations. The rationale here is that the student product would not only be able to perform adequately when he first assumed a job, but that he would possess the potential to grow in his position and be of greater value to his employer because he recognized how his function related to the total system. For example, the specialist who works with the selection and placement of signs, signals, and markings will be more valuable if he understands concepts related to stopping distances, visual perception, accident causation, and law enforcement.



A natural question arises on how to integrate any one of the preceding approaches into the total administrative and curriculum structure of the college. Few examples are available at this time, but it is anticipated that in some, or possibly most cases the traffic specialist curriculum will evolve from an already existing curriculum. For example, a "police traffic services" could naturally become an emphasis area or adjunct program is an already existing law enforcement curriculum (11). A program to prepare traffic engineering technicians could logically develop in the engineering technician program (13). On the other hand, it is conceivable that some traffic specialist programs will begin on their own with separate identity and budget. As this publication goes to press, several institutions are planning programs using these approaches. The decision on how to fit in this new offering efficiently and effectively can best be made locally by the community college administration.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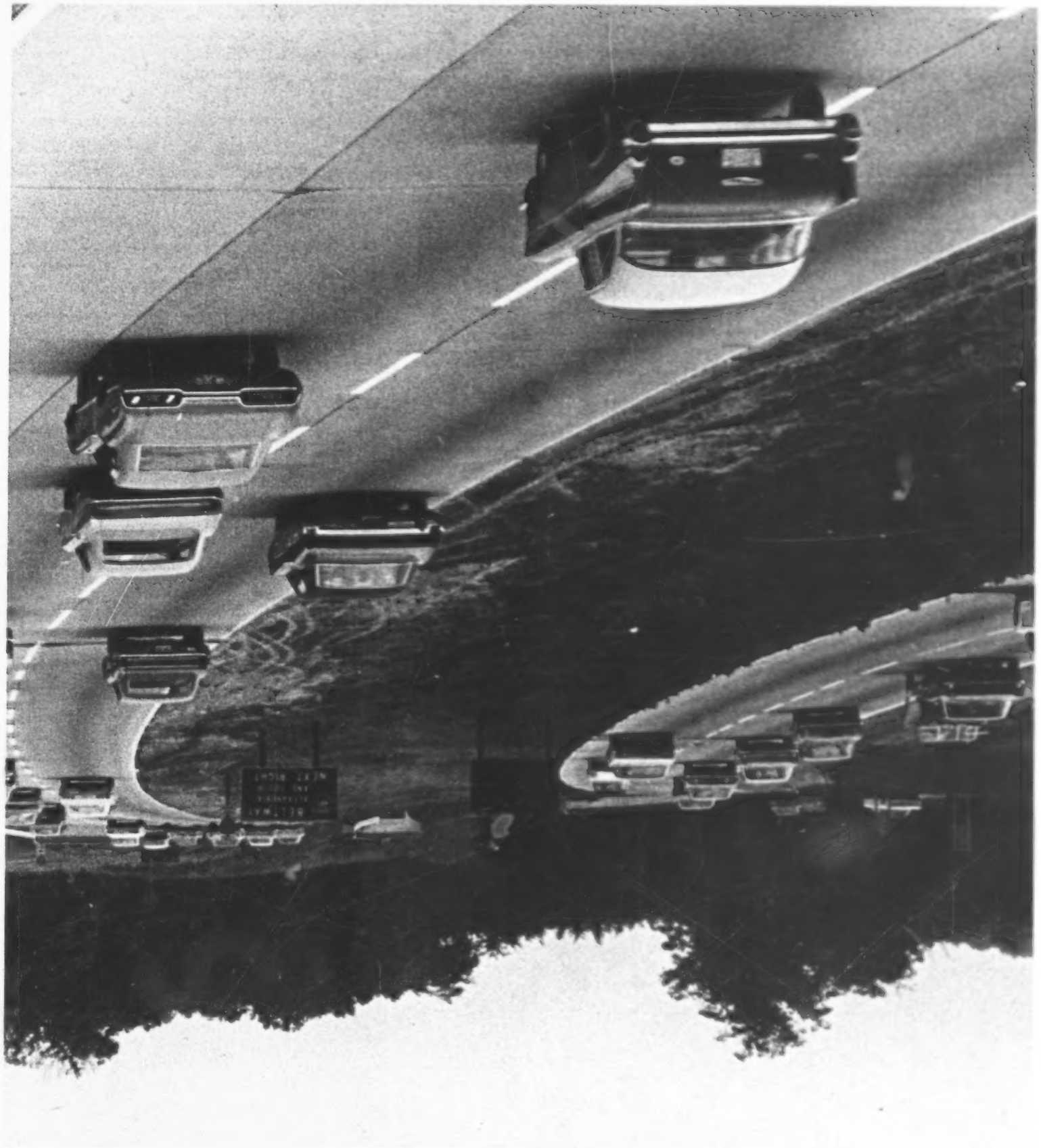

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